

Manitoba's Health Indicators Report

A Federal/Provincial/Territorial Agreement
on Comparable Indicator Reporting reached
by First Ministers and developed by the
Conference of Deputy Ministers

September, 2002

**Manitoba
Health**



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EXECUTIVE SUMMARY

Canadians want and need information about the health programs and services supported by governments across the country. This report reflects a commitment to be accountable to Canadians.

In the fall of 2000, the premiers of all the provinces and territories, and the federal government agreed to provide comprehensive and regular public reporting on the delivery of health programs and services, and the health system's performance. All federal/provincial/territorial (FPT) jurisdictions also agreed to independent third-party verification of the information in the reports. Governments worked together to develop a comprehensive framework and agreed to look at comparable indicators or measures.

The three general categories and 14 indicator areas look at:

- Health status: life expectancy, infant mortality, low birth weight, and how people reported on their own health;
- Health outcomes: change in life expectancy, improved quality of life, and reduced burden of disease, illness and injury; and
- Quality of service: waiting times for key diagnostic and treatment services, patient satisfaction, hospital re-admissions, access to 24/7 first contact health services, home and community care services, the adequacy of public health surveillance, health protection and promotion activities, and disease prevention.

In Manitoba's report, 56 individual indicators highlight key areas of the provincial health system. Manitoba's indicators are compared with indicators for Canada as a whole. The Auditor General of Manitoba has provided an independent verification of these indicators (See page 16).

HEALTH STATUS

In this report, health status is indicated by life expectancy, disability-free life expectancy, low birth weight, infant mortality and self-reported health.

Life expectancy is the number of years a person can expect to live if today's mortality rates remained the same. For both Canada and Manitoba, life expectancy at birth has increased by about two to three years between 1979 and 1999. In 1999, it was 79 years for Canada and 78 years for Manitoba. Disability-free life expectancy, that is the number of years a person can expect to live free of moderate or severe disability, is also approximately the same for both Canada and Manitoba (68.6 years and 67.9 years, respectively).

The rate of infant mortality, which identifies the number of infants who die within the first year of life per 1000 live births, appears to be higher for Manitoba compared to Canada as a whole, although the overall trend has been improving. For example, since 1979 in Manitoba, the proportion of babies weighing at least 500 grams at birth that die within the first year of life has dropped by 49%.

Another important indicator of infant health is low birth weight. In 1997, in 26 developed countries, the percentage of live born infants with a birth weight less than 2500 grams (but more than 500 grams) was 6.1%. The 1999 low birth weight rate for Canada is 5.6% which is similar to Manitoba's rate of 5.3%.

Research has shown that the way people report their own health is an important indicator of health status. In both Manitoba and Canada as a whole, approximately 60% of Canadians rate their health status as very good or excellent (61.4% for Canada and 60.4% for Manitoba).

HEALTH OUTCOMES

Health outcomes look at changes in life expectancy measured by mortality or death rates for selected cancers, heart attacks and strokes. Five-year survival rates are presented for selected cancers and 30-day hospital mortality rates for heart attacks and strokes are also highlighted. For example, the age standardized mortality rate for lung cancer is 47.6 per hundred thousand for Manitoba, which is comparable to the national rate of 50.0. The mortality rate for lung cancer has increased since 1979 for both Canada and Manitoba. Other cancer mortality rates, such as colorectal and breast cancer, have declined. The mortality rate for heart attacks (acute myocardial infarctions and stroke) has also declined for both Canada and Manitoba, and are comparable. For example, the age standardized mortality rate for heart attacks was 60.2 per hundred thousand for Canada compared with 55.6 per hundred thousand for Manitoba.

The report looks at two indicators related to improved quality of life: total hip replacement rate and total knee replacement. The purpose of these procedures is to improve the quality of life of affected individuals. For Canada as a whole, the age standardized rate of total hip replacements per hundred thousand population was 59.5, compared with 74.2 for Manitoba.

A number of indicators were chosen to examine the reduced burden of disease, illness and injury to measure health outcomes. These include incidence rates of various cancers, the potential years of life lost due to selected cancers, heart attacks, stroke, suicide and unintentional injuries. The report also looks at the rates of some diseases preventable by vaccination, and the prevalence of diabetes.

Potential years of life lost is used to assess the loss to society of any death before age 75 and particularly highlights the impact of premature deaths among young people. The age of a person who dies is subtracted from 75 to determine potential years of life lost. For example, if a 35-year old dies, the potential years of life lost is 40 years. Death due to unintentional injuries and suicide in particular are associated with high rates of potential years of life lost.

The incidence of vaccine-preventable diseases is also reported in this section. Highlighting the effectiveness of vaccines, the rate of measles in Manitoba has been near zero since 1994, coinciding with a switch to a two-dose vaccination schedule. Similarly, the Manitoba rate of haemophilus influenza b (invasive) has been less than 1.5 cases per 100,000 since the introduction of a new vaccine in 1992/1993. This represents a 90% decrease since the 1990 rate.

For comparison purposes, much of the data in this section of the report is expressed as a standardized rate. Manitoba has a different age structure than Canada as a whole. As a result, differences in illness rates may not necessarily reflect differences in disease risk, but a difference in the number of at-risk individuals. A standardized rate represents Manitoba's disease rate if Manitoba's age structure was similar to Canada's. It is important to understand that a standardized rate is not an actual number of events; it is a description of what Manitoba's rate would be if it had the standard age structure. If comparing the data in this report to those in another report that records age or sex specific rates, the numbers may be quite different.

QUALITY OF SERVICE

There are seven main indicators of quality of service in this report and a large number of sub-indicators. The main indicators include wait times for key diagnostic and treatment services, patient satisfaction, hospital readmissions, access to 24/7 health services, home care services, public health surveillance and protection, and health promotion and disease prevention.

The report looks at wait times for key diagnostic and treatment services such as cardiac surgery, hip and knee surgery, and radiation therapy. Wait times are difficult to measure because factors such as patient preferences for a particular specialist or a convenient time are difficult to measure. There are also different definitions. For example, the wait time could begin with the first visit to a family doctor, or when a specialist identifies the need for a particular treatment. It is also difficult to assess the appropriateness of the length of wait times. For instance, some patients may be put on a waiting list for a procedure that they do not currently need, but are likely to need at some time in the future. Wait times for the procedures examined vary.

Patient satisfaction was measured by a national survey comparing Canada and Manitoba. Individuals were asked to rate the overall health system. A total of 84.4% of Canadians and 80.4% of Manitobans rated the system as excellent or very good. For Canada, 79.9% rated hospital services as excellent or very good compared with 82.1% of Manitobans. The rate of satisfaction with hospital services was 79.5% for Canada and 81.7% for Manitoba. The care provided by a physician was rated as excellent or very good by 89.6% of Canadians and 90.1% of Manitobans.

Home care admission rates increased with increasing age. For example, in Manitoba between 1998/1999 and 2001/2002, there were 0.013 per capita admissions to receive home care services. This per capita figure does not necessarily reflect individual Manitobans, as individuals may receive more than one home care service. This figure increases to 0.072 admissions per capita for Manitobans aged 65 years and older, and to 0.106 for those aged 75 years and older. Hospitalization rates for conditions which may often be cared for in the community, called ambulatory care sensitive conditions, are one indicator of appropriate access to community-based care. These are long-term health conditions which can often be managed with timely and effective treatment in the community, without hospitalization. In 1999/2000 in Manitoba, 495 per 100,000 were admitted to an acute care hospital for a condition that may have been treated in the community. This compares to 401 per 100,000 for Canada as whole. Overall, there was a 17% decrease in the rate of ambulatory care sensitive conditions between 1995/1996 and 1999/2000 in Manitoba, which is similar to the Canadian rate.

Public health surveillance and protection indicators include surveillance on tuberculosis, HIV, verotoxigenic *E. coli*, chlamydia, and exposure to environmental tobacco smoke. Of particular note, the age standardized rates of tuberculosis and chlamydia appear higher for Manitoba than for Canada while HIV rates appear lower. As revealed through self-report survey items on the Canadian Community Health Survey, rates of exposure to environmental tobacco smoke in public places and in work places are similar in Manitoba when compared with Canada.

Four main areas of health promotion and disease prevention are highlighted in this report. They include smoking, physical activity, obesity and flu immunization for 65+ years. The data for this section came from self-reported information gathered in the Canadian Community Health Survey. Manitoba's sample size for this survey in 2000 was approximately 8400. Self-reported data often offer useful insights, however, its accuracy may not be equivalent to more objective measurement tools. In Manitoba, the proportion of respondents who report smoking is generally equivalent to the Canadian figure, if not lower for most age groups. Survey respondents from Manitoba report less physical activity than Canadian respondents as a whole, 17.4% in Manitoba versus 21% in Canada for respondents over 12 years old. Compared to national survey respondents, fewer Manitoba respondents age 20 to 64 reported an acceptable body weight with Manitoba's rate at 44.6% versus Canada's at 48.3%. About 56% of Manitobans aged 65 years and older reported receiving an influenza immunization within the last year. This is comparable to the Canadian self-reported rate of 60%.

Manitoba does not have sufficient data to comparably report on hospital re-admissions or on access to 24-hour a day and 7-day a week health services, including information, advice and direct treatment services.

Comprehensive assessments of the health status of the population and the performance of the health system are complex matters. To fully understand a population's health, one must understand the broader determinants of health, which may include the demographic makeup of the population (e.g., fertility patterns, the ageing of the population, ethnic composition), time trends in health, socioeconomic diversity, and education levels, to name a few. While the 56 indicators presented in this report may not provide a complete picture of the health of Manitobans, they do provide a snapshot within the chosen areas.

INTRODUCTION

In September 2000, all provinces/territories and the federal government committed to a public report on the health care system in Canada. Each province and territory and the federal government have developed a process to look at the same indicators or measures to provide Canadians with information about their health care system. Governments worked together to develop a comprehensive framework and agreed to look at comparable indicators or measures in the following general areas:

- Health Status;
- Health Outcomes; and
- Quality of Service.

Between September 2000 and December 2001, a planning and consultation process was undertaken on a national basis to identify 14 indicator areas within the above general areas and the specific indicators to be reported on.

All provincial and territorial premiers and the federal government identified the importance of being accountable to Canadians. It was also determined that public reporting with independent third party verification will enhance the performance of health services.

The First Ministers suggest that this initiative on performance measurement:

- allows Canadians to see how we are doing in reaching common goals and objectives;
- assists those responsible for health care delivery to make more informed choices;
- promotes the identification and sharing of best practices, contributing to service innovations;
- increases our understanding of how health services are used and what the results are; and
- helps Canadians understand how publicly funded health services are being delivered.

Responsibility for the integrity of the attached Health Indicators Report for Manitoba rests with the Minister of Health.

Manitoba Health maintains systems and controls to ensure that information is objective, complete, and accurate in accordance with agreed upon reporting requirements. In preparing the report, the department also relied on information provided from external parties for some indicators as indicated in the report.

It is important to recognize that a comprehensive assessment of the health status of a population is a complex process. To fully understand a population's health, one must understand the demographic makeup of that population, time trends in health, and the determinants of health, many of which are not addressed here. Many of these determinants and causes of health or disease are related to factors other than the health care system itself. Some of these factors may include fertility patterns, the ageing of the population, ethnic composition, education, income, and coping skills. For example, certain diseases or conditions may be more prevalent within certain communities or disadvantaged groups and these conditions may be reflected in the overall health status of the province. Given the availability of hospitalization and current community-level data, 67 indicators were initially chosen, of which 56 are reported on in this report. While the 56 indicators presented in this report may not provide a complete picture of the health of Manitobans, they do provide a snapshot within the chosen areas.

Manitoba Health is working toward the resolution of issues that prevented it from being in full compliance with the reporting requirements. In particular, it was not possible to report on 11 indicators within the following indicator areas in this report:

- Net survival rates for Acute Myocardial Infarction (AMI) and stroke;
- Wait times for specialist, diagnostic tests, surgery;
- Hospital re-admissions for select conditions; and
- Access to 24/7 first contact health services.

Manitoba Health will work with its information stakeholders to develop or improve information systems in order that it can be in full compliance with all reporting requirements for the next report.

This report reflects Manitoba's data in the 14 indicator areas. Definitions, technical specifications, and requirements for presenting the data were developed during the national planning process and have been adhered to in this report. Readers should note that when interpreting the results, the data may have important limitations that are explained at the end of each section in a "data clarification" paragraph.

Differences between Manitoban and Canadian rates contained in the report may not be statistically significant. Care has been taken to not suggest that differences in rates are statistically significant when they may not be. However, in some cases, differences in rates between jurisdictions have been identified in the text of the document even though they may not be significant. Though not contained in the report, an analysis of the statistical significance of the differences in rates will be available upon request.

An independent verification of Manitoba's report was conducted by the Office of the Auditor General of Manitoba.

Manitoba

Deputy Minister of
Health



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CANADA

Management's Responsibility for Health Indicator Reporting

The Minister of Health is responsible for the integrity of Manitoba's Health Indicator Report. My responsibility was to oversee the preparation of this Report.

Manitoba Health is reporting on 56 out of a total of 67 indicators that were identified through a provincial/territorial and federal government planning and consultation process. To the extent possible given available data, the indicators that are reported are defined as agreed to during the national planning process, and the technical requirements for calculating and presenting the indicators have been adhered to. Information is provided where departures from agreed upon specifications were necessary, or if further explanation was required to assist in data interpretation.

The information in Manitoba's Health Indicators Report and the health information systems of Manitoba Health is the responsibility of this department. This responsibility consists of maintaining the required information systems and adequate controls to ensure that the information generated by the systems is accurate and that the performance indicators and related explanations found in the report are reliable.

In the preparation of the Report, Manitoba Health also relied on information provided from external parties, including Statistics Canada, Canadian Institute for Health Information (CIHI), and Health Canada. The Department is reasonably confident that the information obtained from external sources is free of significant misrepresentation.

Limitations in data systems maintained by Manitoba Health are described in the Report. It should be noted that the completeness and accuracy of source data (such as diagnoses by health professionals and original reporting of such information in health records) has not been verified in the process of preparing this Report. We are unable to determine whether any adjustments to reported Manitoba health indicators, due to these limitations might be necessary.

To the best of our knowledge the information in the report is reliable unless otherwise noted and explained, and the reported indicators fairly reflect the facts to a reasonable level of accuracy.

The Auditor General of Manitoba was engaged to provide third party verification in the form of an audit opinion on the Report.

Milton Sussman, Deputy Minister

September 30, 2002



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AUDITOR'S REPORT

To the Minister of Health

I have audited the **Manitoba health indicators** presented in *Manitoba's Health Indicators Report* dated September 2002, as prepared by the Department of Health based on the commitment made in the First Ministers' Meeting Communiqué on Health, of September 11th 2000. The Conference of Deputy Ministers defined 67 specific health indicators to be regularly reported to Canadians. Reporting of the Manitoba health indicators, in accordance with Criteria in Annex 1 is the responsibility of the Manitoba Department of Health. The Department is reporting 56 of the 67 indicators. My responsibility is to express an opinion on these health indicators based on my audit. However, my responsibility does not extend to assessing the performance achieved, nor the relevance of the Manitoba health indicators. My audit was limited to information relating to the most recent year for which each Manitoba health indicator was reported.

Data for *Manitoba's Health Indicators Report* are derived from four main sources:

- Manitoba Department of Health, Provincial Health Information Systems;
- Statistics Canada;
- Canadian Institute for Health Information (CIHI); and
- Health Canada.

Except as explained in the following paragraphs, I conducted my audit in accordance with standards for assurance engagements of the Canadian Institute of Chartered Accountants. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the Manitoba health indicators are free of significant misstatement. To this end, I have audited these health indicators to determine whether they meet the Criteria in Annex 1. Such an audit includes examining, on a test basis, evidence supporting the Manitoba health indicators and disclosures. An audit also includes assessing significant judgments made by management of the Manitoba Department of Health.

Manitoba Department of Health Data Reservation:

Provincial data for the following 6 Manitoba health indicators were drawn from the relevant Manitoba Department of Health databases:

- Home Care Admissions;
- Waiting Times for Hip Surgery; and
- Waiting Times for Knee Replacement Surgery.
- Waiting Times for Cardiac Surgery
- Waiting Times for Radiation Therapy – Breast Cancer
- Waiting Times for Radiation Therapy – Prostate Cancer

These data are produced by certain information systems, which could not reasonably be audited due to the absence of controls to ensure data completeness, accuracy or the adequacy of disclosure for these Manitoba indicators. Consequently, I am unable to form an opinion on the completeness and accuracy of the data used, or the adequacy of disclosure, for these Manitoba health indicators.

CIHI Data Reservation:

Data used for the following 7 Manitoba health indicators were drawn from the relevant CIHI databases:

- 30-day Acute Myocardial Infarction Mortality Rate;
- 30-day Stroke Mortality Rate;
- Total Hip Replacement Rate;
- Total Knee Replacement Rate;
- Hospital Re-Admission Rate For Acute Myocardial Infarction;
- Hospital Re-Admission Rate for Pneumonia; and
- Hospitalization Rate for Ambulatory Care Sensitive Conditions.

At this time, I am unable to provide an opinion on the accuracy of the data and the adequacy of disclosure on limitations of the data drawn from the Discharge Abstract/Hospital Morbidity Database of the Canadian Institute for Health Information for the seven PIRC indicators, because of a lack of documentation on the quality assurance process, and because the 3-year re-abstraction study, which will provide information on the quality of input data, will not be completed for another two years.

Health Canada Data Reservation:

National data for the following 8 Manitoba health indicators were drawn from the relevant Health Canada databases:

- Invasive Meningococcal Disease Incidence Rate;
- Measles Incidence Rate;
- Haemophilus Influenzae b (Invasive) Disease Incidence Rate for Children;
- Prevalence of Diabetes;
- Tuberculosis Incidence Rate;
- Reported HIV Diagnosis;
- Verotoxogenic E. Coli Incidence Rate; and
- Chlamydia Incidence Rate.

Participation in these databases is voluntary, and there is a lack of formal federal/provincial/territorial agreements on data sharing, data standards and data definitions. The quality assurance processes for these databases are inadequate to ensure the accuracy of the data. Health Canada states in the federal health indicators report that improvements are required on data quality. Consequently, I am unable to form an opinion on the accuracy of the data or on the adequacy of disclosure for these 8 Manitoba health indicators.

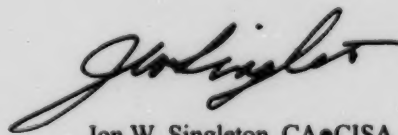
In my opinion, *except for the 21 Manitoba health indicators as noted in the preceding reservation paragraphs, and except for the effect of any adjustments if any, which I might have determined to be necessary had the source data limitations as disclosed by Management in their Statement of Management Responsibility not been present*, the remaining 35 Manitoba health indicators included in *Manitoba's Health Indicators Report* dated September 2002, that were subject to my audit, are in all significant respects, presented fairly in accordance with the Criteria in Annex 1, and provide the information required by the public reporting commitment made in the First Ministers' Meeting Communiqué on Health, of September 11th 2000.

Management of the Manitoba Department of Health has adequately disclosed the limitations of source data with respect to completeness and accuracy in their statement of responsibility, which precedes this audit opinion. As well, management of the Manitoba Department of Health has adequately disclosed and explained the absence of 11 health indicators where the source information for these indicators is not presently available.

Manitoba's Health Indicators Report includes comparative health indicators, not audited by us, relating to other governments (provincial, territorial and federal). Health indicators for other provinces and territories, and for Canadian government programs have been audited by other auditors, or other auditors have been engaged to perform specified auditing procedures. Annex 2 includes an explanation of the difference between these two types of engagements and identifies the nature of the engagement performed in each of the jurisdictions. The auditors' findings and observations resulting from engagements in other Canadian jurisdictions are included in the reports of the respective jurisdictions.

I am encouraged by the work undertaken by the Manitoba Department of Health in the preparation of its first health indicators report. The Manitoba Health Indicators Report is a continuing work in progress. Management of the Manitoba Department of Health has set out areas where the Manitoba Health indicators depart from the Criteria in Annex 1. Management has fairly stated the departures and why they exist. Readers are encouraged to use the Manitoba Health Indicators Report, but in doing so, to keep in mind management's explanations of the departures.

Winnipeg Manitoba
September 23, 2002



Jon W. Singleton, CA•CISA
Auditor General

ANNEX 1

Audit criteria

The Manitoba Department of Health has acknowledged the suitability of the following criteria:

Completeness

The health indicators reported meet all performance measurement and reporting requirements of the commitment of the First Ministers' Meeting Communiqué on Health of September 11, 2000. The health indicators comply with the definitions, technical specifications and standards of presentation approved by the Conference of Deputy Ministers.

Accuracy

The health indicators reported adequately reflect the facts, to an appropriate level of accuracy.

Adequate Disclosure

The health indicators are defined, and their significance and limitations are explained. The report states and properly describes departures from what was approved by the Conference of Deputy Ministers, and explains plans for the future resolution of non-compliance issues.

Verification of Comparative Information from Other Jurisdictions

The governments of Canada, the Territories and the Provinces have adopted different approaches to meet the September 2000 First Ministers Meeting Communiqué on Health requirement in respect of "third party verification" for their health reports. Some have engaged their auditor to provide audit assurance on their health reports and others have asked for specified auditing procedures to be applied. The paragraphs below outline the major differences between an audit assurance engagement and a specified auditing procedures engagement. For a complete comparison, please refer to the CICA Handbook section 5025 for audit assurance engagements and section 9100 for specified auditing procedure engagements. I believe, for the reasons described in the following paragraphs, that an audit under CICA Handbook section 5025 is the advisable approach.

In an attest audit engagement, the auditor's responsibility is to offer assurance to users, in the form of an audit opinion, on a report prepared by management. The auditor determines the nature, extent, timing, appropriateness and sufficiency of audit procedures, which, in the auditor's judgement, are necessary to provide a high level of assurance concerning the subject matter, or the health indicators in a health indicators report in the present context.

In a specified auditing procedure engagement, the auditor's responsibility is to report the results of applying auditing procedures specified by management. As the extent of specified auditing procedures may vary from engagement to engagement, such engagements are difficult to compare. And since the extent of the procedures performed is not sufficient to constitute an audit, the reports do not provide an audit opinion. Reports state those procedures actually applied and only the factual results of those procedures, leaving the reader to determine the fairness of the information.

The following is a list of jurisdictions that have engaged their auditor to provide audit assurance on their health indicators, and those that have asked for specified auditing procedures to be applied.

Audit opinion CICA 5025	Specified Auditing Procedures CICA 9100
British Columbia	Alberta
Saskatchewan	Ontario
Manitoba	New Brunswick
Quebec	Prince Edward Island
Nova Scotia	Newfoundland and Labrador
Yukon	
Northwest Territories	
Nunavut	
Canada	

HEALTH STATUS INDICATORS

1. LIFE EXPECTANCY

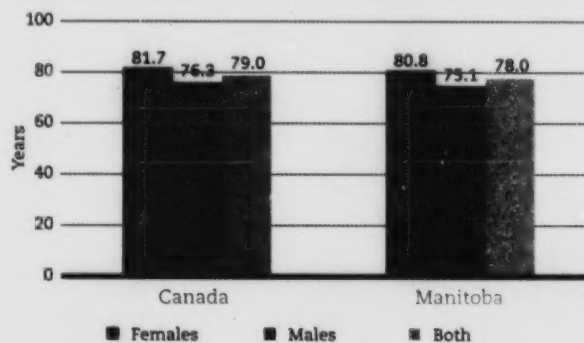
1a. Life Expectancy

Life expectancy is the number of years a person could expect to live if today's mortality rates stayed the same throughout a person's life. Life expectancy is a widely used indicator of the health of a population. In developed countries such as Canada life expectancy is higher for women than for men - women are expected to live longer than men. In 1999, Japan achieved the highest life expectancy in the world: 84.1 years for women, and 77.3 years for men (*United Nations, Human Development Report, 2001*).

Life expectancy is reported as a standardized statistical indicator. It is averaged over the entire population and is not the number of years any one person can actually expect to live. Mortality rates are used for the observation period (e.g. 1998), and these are averages for the entire population.

As Figure 1 indicates, Manitoba females have a longer life expectancy compared to males. Females born in Manitoba in 1999 can expect to live an average of 80.8 years, whereas males can expect to live 75.1 years. These values are comparable to the national average of 81.7 for females and 76.3 for males.

Figure 1.
Life
Expectancy at
Birth by Sex,
Manitoba and
Canada, 1999



Source: Statistics Canada, Vital Statistics, Birth & Death Database and Demography Division (population estimates).

Historically, mortality or death rates in Canada have been falling, so that the mortality rates in future years may be lower. As mortality rates drop for the country as a whole, life expectancy increases. Since 1979, life expectancy at birth, both for Manitoba and Canada, has risen by roughly 2 to 3 years. Figure 2 shows the life expectancy at birth separately for males and females. For both Canada and Manitoba, females have enjoyed a greater life expectancy than males. That gap has been closing over the last decade, with males showing a greater increase in life expectancy than females.

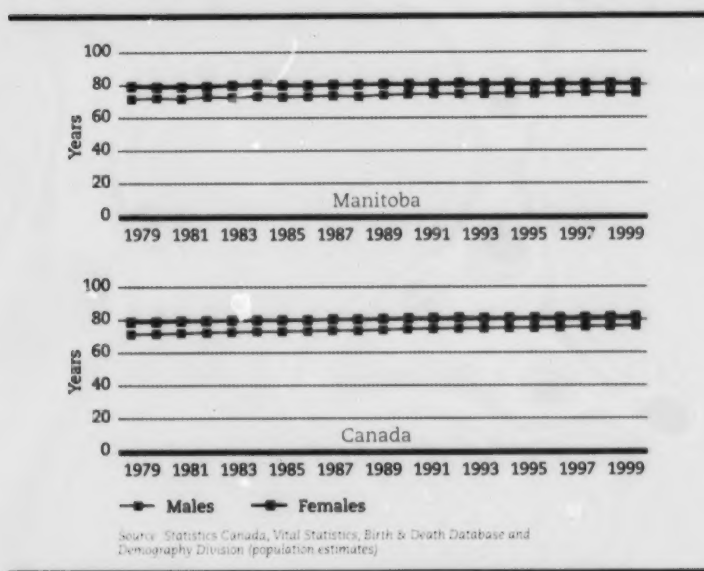
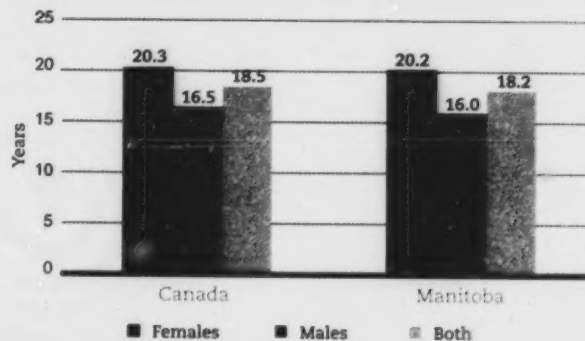


Figure 2.
Life
Expectancy at
Birth, by Sex,
Manitoba and
Canada,
1979-1999

In developed, industrialized countries life expectancy may also be expressed as the life expectancy at age 65, or the number of years on average a population can expect to live past age 65. Figure 3 shows the life expectancy at age 65 for Canada and Manitoba. Compared to the data presented in Figure 1, the gap in life expectancy between Manitoba males and females closes, possibly suggesting a higher mortality rate for males prior to age 65 compared to females.

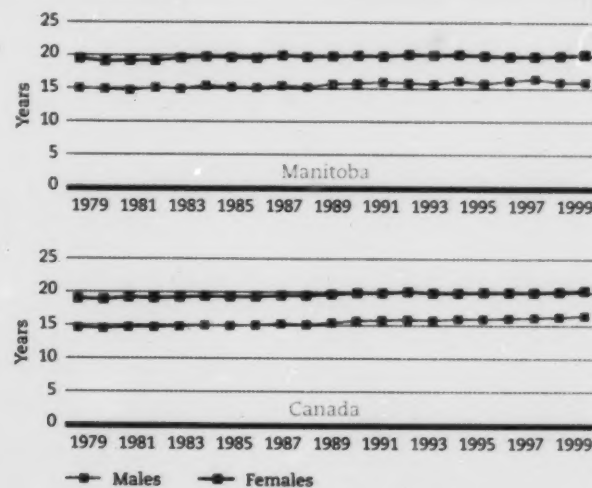
Figure 3.
Life
Expectancy at
Age 65,
by Sex,
Manitoba and
Canada, 1999



Source: Statistics Canada, Vital Statistics, Birth & Death Database and Demography Division (population estimates)

Figure 4 shows the trend changes in life expectancy at age 65 for Canada and Manitoba by sex. Since 1979, life expectancy at age 65 for males and females has changed by about one year overall for Manitoba and Canada. Given that the life expectancy at birth for both Manitoba and Canada has risen by 2 to 3 years, it is possible that much of the gain in life expectancy at birth can be accounted for by fewer deaths prior to age 65.

Figure 4.
Life
Expectancy at
Age 65,
by Sex,
Manitoba and
Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, Birth & Death Database and Demography Division (population estimates)

1b. Disability-Free Life Expectancy

Disability-free life expectancy (DFLE) is the number of years an average individual would be expected to live free of moderate or severe disability. DFLE distinguishes between years of life free of any disability and years with at least one disability. Disability is defined as having a major activity limitation that affects home, work, or school. This can be assessed starting from birth (for DFLE at birth) or at age 65 (for DFLE at age 65). DFLE is calculated on the basis of the mortality statistics and disability prevalence patterns by age and sex for a given observation period, typically a calendar year.

DFLE is used to reflect the fact that not all years of a person's life are typically lived in perfect health. Chronic disease, frailty and disability tend to become more prevalent at older ages - a population with a higher life expectancy may not be healthier. Indeed, a major question with an aging population is whether increases in life expectancy will be associated with more or less people spending their years living with disability. If DFLE is increasing more rapidly than life expectancy in a population, then people are living longer and living a greater portion of their lives free of disability.

In this report disability is defined as living with either a moderate or severe disability, or living in an institution. Figure 5 shows Manitoba females born in 1996 can expect to have about 69 years of disability-free living, compared to 66 years for Manitoba males. Similar to the data for life expectancy, the Manitoba DFLE data is comparable to the data for all of Canada, with Canadian males and females living 66.9 and 70.2 disability-free years, respectively.

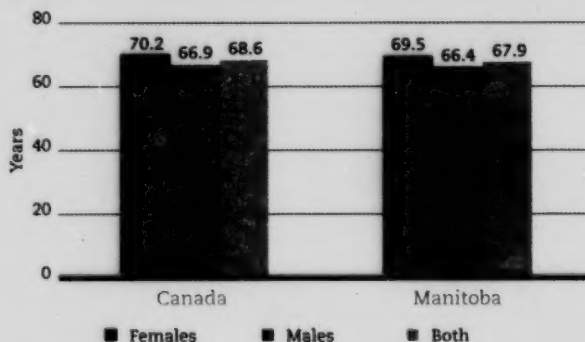
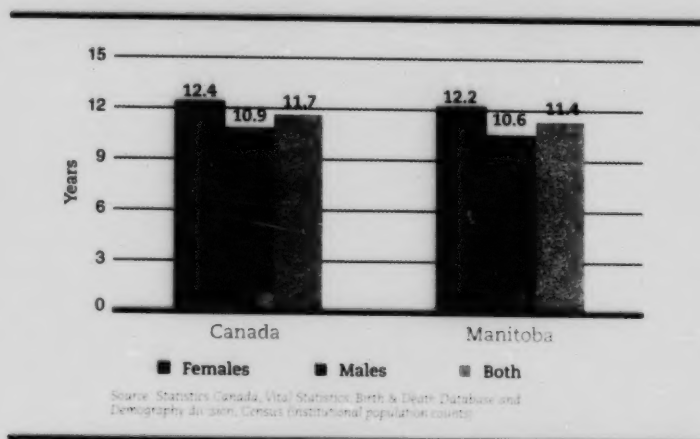


Figure 5.
Disability-Free Life Expectancy at Birth, by Sex, Manitoba and Canada, 1996

Source: Statistics Canada, Vital Statistics, Birth & Death Database and Demography Division, Census (institutional population counts)

Figure 6 shows the disability-free life expectancy for those who live to age 65 for Canada and Manitoba. Considered in conjunction with the life-expectancy at age 65 data presented in Figure 3, Manitobans can expect to live, on average, the majority of their senior years free of disability (11.4 disability free years out of 18.2 years of life after age 65). Again, the Manitoba data is comparable to the Canadian average, both for males and females.

Figure 6.
Disability-
Free Life
Expectancy
at Age 65,
by Sex,
Manitoba
and Canada,
1996



Data Clarification

The life expectancy data exclude all non-residents of Manitoba from both the deaths (numerator data) and the population estimates (denominator data). In other words, someone who died outside of the province, even if she/he was born and raised in Manitoba, would not be counted in the life expectancy statistic.

Similarly, all non-residents of Manitoba are excluded from the disability-free life expectancy data. In addition, for the disability-free life expectancy indicator, individuals living on military bases or on First Nations reserves are excluded from the health survey from which these data are gathered.

2. INFANT MORTALITY

Infant mortality is the number of infants who die in the first year of life. It is reported as a rate per 1000 live births. The infant mortality rate is a long-established measure of child health as well as the well-being of a population. It reflects not only the level of mortality, but also the health status and health care of a population, the effectiveness of preventive care and the attention paid to maternal and child health, along with broader social factors (e.g., maternal education, smoking). The average infant mortality rate in 1997 for 29 of 30 developed countries was 7.3 infant deaths per 1000 live births, compared with 5.5 per 1000 in Canada (Organization for Economic Cooperation and Development – OECD). Among developed countries, an infant mortality rate of less than 4.0 per 1000 is considered exceptionally good. Examining 1996 data, only Japan and Iceland had achieved such low rates.

Figure 7 shows the infant mortality rate for Manitoba and Canada as a whole and separately by sex for 1999. Both nationally and provincially the infant mortality rate for male infants appear higher compared to their female counterparts.

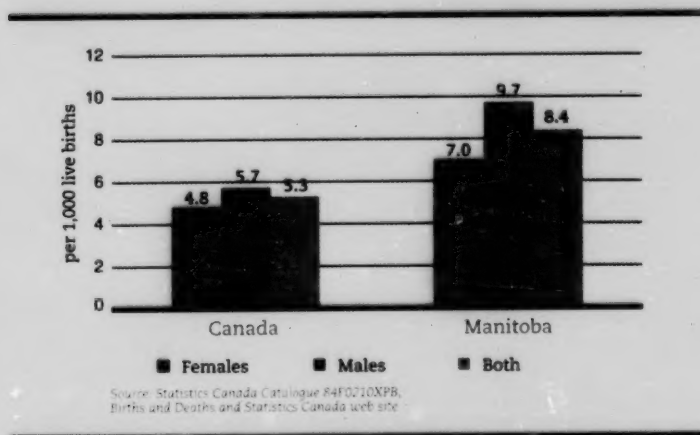


Figure 7.
Infant
Mortality,
All Birth
Weights,
Manitoba
and Canada,
1999

Infant mortality is generally assessed for infants weighing greater than 500 grams at birth because very low birth weight babies, if born live, have an exceptionally high mortality rate. When all infants regardless of birth weight are included in infant mortality calculations, regions with a greater proportion of low birth weight infants will often have higher infant mortality rates. When very low birth weight births (less than 500 grams) are excluded from the analyses, the overall infant mortality rate for Manitoba decreases by 23%, for both male and female infants (Figure 8). Excluding the very low birth weight babies, 6.4 per 1000 live births died within the first year of life in Manitoba in 1999. Given that this rate is 49% higher for male infants compared to female infants, and is 1.4 times higher than the Canadian average (4.4 deaths per 1000 live births), the data suggest that the Manitoba infant mortality rate is being driven by factors other than low birth weight (*Manitoba Perinatal Surveillance Report, 1985-1996; Manitoba Perinatal Surveillance Report, 1989-1998*).

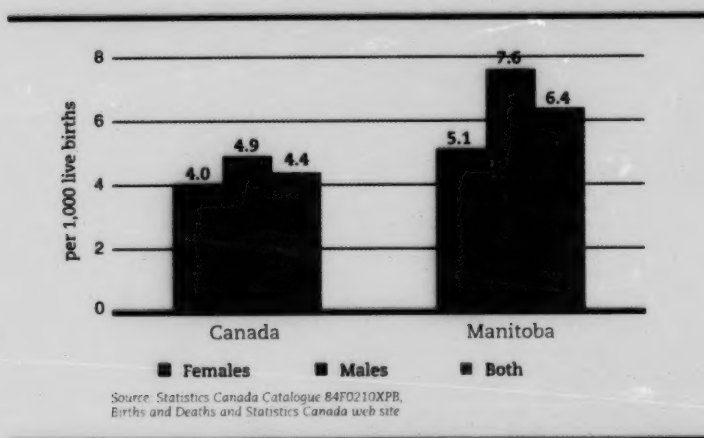
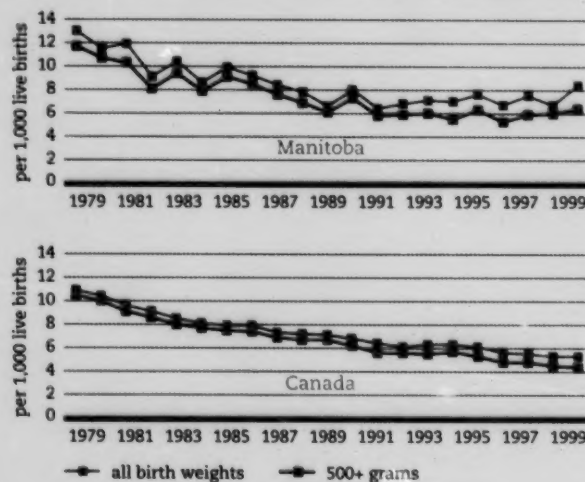


Figure 8.
Infant
Mortality
for Birth
Weights of
500+ grams,
Manitoba
and Canada,
1999

Across Canada and in Manitoba, the trends in infant mortality show decreases in the proportion of infants dying within the first year of life. Figure 9 compares the infant mortality rate for infants of all birth weights and infants born weighing at least 500 grams, separately for Manitoba and Canada. Since 1979 the proportion of babies weighing at least 500 grams at birth that die within the first year of life has dropped by 49% in Manitoba. Much of this decrease however has occurred prior to the mid-1990s. Since 1996, the infant mortality rate among babies 500+ grams has been increasing. A comparable trend is not seen in the national data, where the infant mortality rate for 500+ grams babies has continued to decrease since the mid-1990s.

Figure 9.
Infant
Mortality,
Manitoba and
Canada,
1979-1999



Source: Statistics Canada Catalogue 84F0210XPE, Births and Deaths and Statistics Canada web site

Data Clarification

For infant mortality, stillborn infants have been excluded from both the numerator and the denominator. Births to mothers not living in Manitoba, and infant deaths to non-residents of Manitoba are excluded from the analysis. Infants who are born or who die outside Manitoba but whose mother resides in Manitoba are included in the Manitoba data. Where the infant mortality rate is specified as reflecting deaths for infants with a birth weight of 500 grams or greater, infants with a birth weight of less than 500 grams have been excluded.

PRENATAL PROGRAMS FOR PREGNANT WOMEN

- Through partnerships including Manitoba Health, Healthy Child Manitoba, Regional Health Authorities and other agencies, a number of supports are provided to expectant and new parents across Manitoba. For example, RHAs deliver prenatal care, education, and BabyFirst support services.
- Healthy Child Manitoba also administers a Prenatal Benefit (provided on an income-tested basis) and nutrition education for expectant and new parents to help them learn about and purchase nutritious foods.

3. LOW BIRTH WEIGHT

Low birth weight is defined as the proportion of live births with a birth weight less than 2500 grams and at least 500 grams. Low birth weight is an important indicator of the general health of newborns and a key determinant of infant survival, health and development. Low birth weight infants are at greater risk of dying during the first year of life. If they survive, they have a greater risk of disability and diseases such as cerebral palsy, visual problems, learning disabilities and respiratory problems. Low birth weight in Canada is a principle risk factor associated with infant mortality.

Low birth weight is associated with poor maternal health, lifestyle and economic circumstances. It is also associated with multiple births and assisted conception. Appropriate medical care and a healthy lifestyle for the pregnant woman can improve the chances that the baby will have a healthy birth weight. It should be noted that a potentially confusing factor is variations in the ethnic composition of the population since some ethnic groups tend to have babies of lower weight, even though these infants are otherwise healthy.

The low birth weight rate in 1997 for 26 of 30 developed countries was 6.1% of live births, compared with 5.8% in Canada (OECD). Among developed countries, a low birth weight rate of less than 5.0 is considered good. Similar to the Canadian average, 5.3% of all live births in Manitoba are born with a birth weight of less than 2500 grams (see Figure 10). The majority of these low birth weight infants weigh at least 500 grams, with only 0.2% of all live births in the province being considered very low birth weight (less than 500 grams). These data are similar to the national data, which indicate 0.1% of all live births being very low birth weight.

Almost 70% of these low birth weight babies in Manitoba are born pre-term (i.e., prior to 37 weeks gestation; *Manitoba Perinatal Surveillance Report, 1985-1996; Manitoba Perinatal Surveillance Report, 1989-1998*). This suggests that in trying to better understand the determinants of low birth weight, the risk factors important to pre-term birth must be considered.

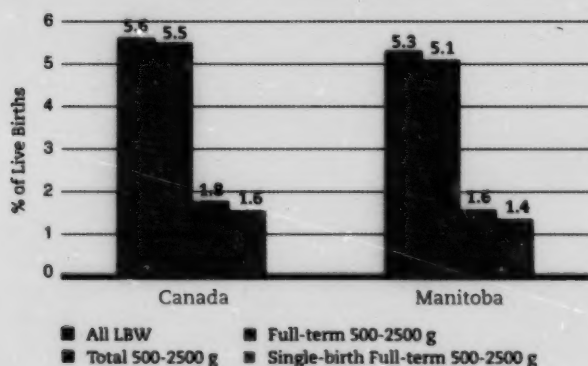
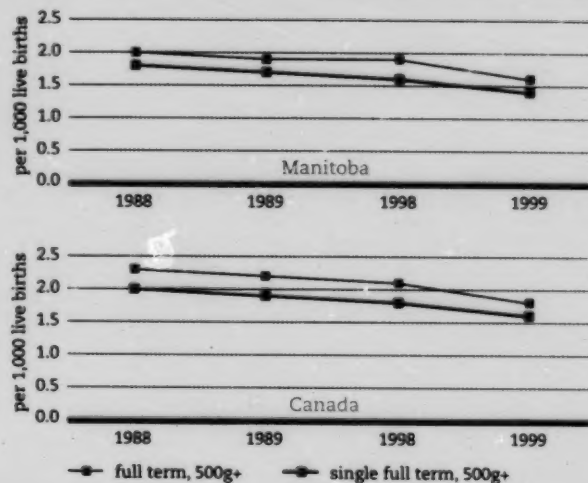


Figure 10.
Low Birth
Weight,
Manitoba and
Canada, 1999

Source: Statistics Canada, Vital Statistics, Birth Database

As shown in Figure 11, the low birth weight rate, expressed as a proportion of all live term births has shown a slow decrease over the last 10 years, for both Manitoba and Canada as a whole.

Figure 11.
Low Birth
Weight for
Term Live
Births
(500g+),
Manitoba and
Canada,
1988-1999



Source: Statistics Canada, Vital Statistics, Birth Database

Data Clarification

The low birth weight rate is the number of all live born infants weighing less than 2500 grams proportional to the total number of live births weighing 500 grams or greater. Stillborn infants and infants born weighing less than 500 grams are excluded from both the numerator and the denominator. As well, births with an unknown birth weight are also excluded. Births to mothers not residing in Manitoba are also excluded from the analysis. Infants who are born outside Manitoba but whose mother resides in Manitoba are included in the Manitoba data.

4. SELF-REPORTED HEALTH

Self-reported health is defined as the percent of the population age 12 and older who report that their health is very good or excellent. Self-reported health is a general indicator of the overall health status of individuals. It can include what other measures may miss, such as disease severity, some aspects of positive health status, physiological/psychological reserve, and social and mental function.

Self-reported health data was collected using a five-point reporting scale, ranging from excellent to poor. Studies indicate that when individuals rate their health in response to this question, they tap into information that has important predictive power relating to chronic disease incidence, functional decline and, ultimately, survival.

As Figure 12 indicates, 60% of Manitobans rate their health status as very good or excellent. This figure corresponds with the data presented earlier in Figure 5 that indicated Manitobans born in 1996 can expect to have about two-thirds of their life free of disability. Canadians as a whole report a similar excellent health status.

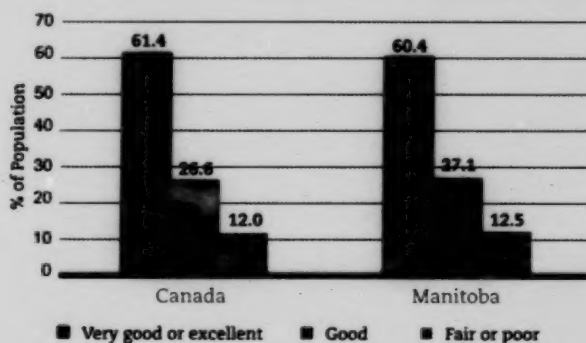


Figure 12.
Self-Reported
Health,
Manitoba
and Canada,
2000

Source: Canadian Community Health Survey - Cycle 1.1 - 2000/2001

As shown in Figure 13, older Manitobans are less likely to rate their health as excellent or very good than their younger counterparts.

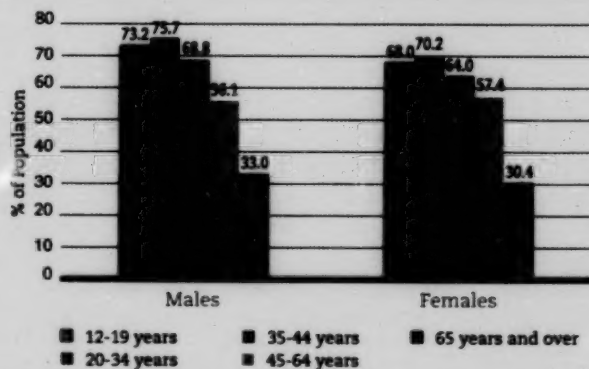
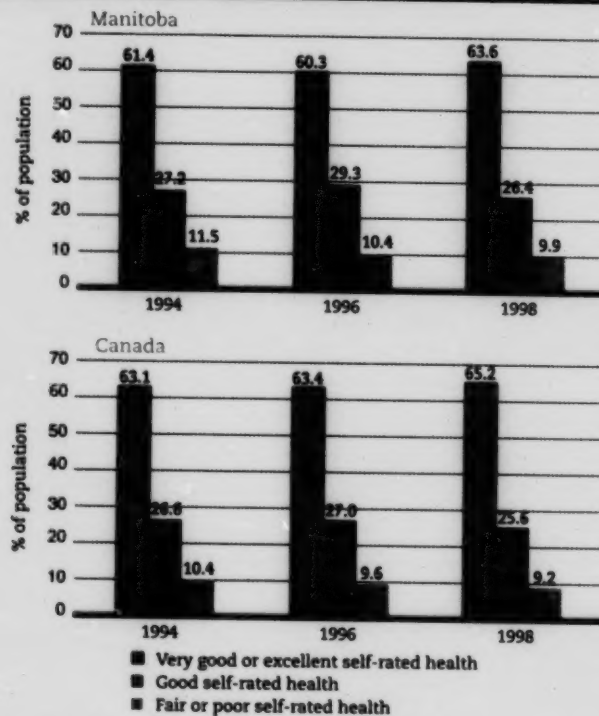


Figure 13.
Health Status
Self-Reported
as Excellent
or Very Good,
Manitoba,
2000

Source: Canadian Community Health Survey - Cycle 1.1 - 2000/2001

Shown in Figure 14 the proportion of both Canadians as a whole and Manitobans who are satisfied with their health status has been upwards of 60% over the last few health surveys, with little change.

Figure 14.
Self-Reported
Health
Status,
Manitoba
and Canada,
1994-1998



Source: National Population Health Surveys (1994-95 to 1998-99)

Data Clarification

The data for this indicator was gathered through the Canadian Community Health Survey (2000 data) and the National Population Health Survey (1994-1998 data). These data apply to individuals 12 years of age and older living in private households in Manitoba. While providing useful information as to an individual's perception of their health status, these data cannot be considered population-based, and therefore may not reflect the complete perception of the health status of Manitobans. In particular, persons living on First Nations reserves and on Crown lands are not surveyed in the various health surveys from which these data are derived. This has important implications for interpretation of the data, as on-reserve First Nations peoples may have very different health status, and their perception of their health may also be quite different compared to the general Manitoba population that is not on reserve. Additionally, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions of Manitoba are excluded from the sample.

HEALTH OUTCOMES INDICATORS

Health outcomes indicators are intended to reflect the impact of health system programs and services on health status. It is recognized that assessing how much a particular health outcome is affected by health programs and services is difficult based on indicator data alone. Where possible, indicators have been selected where the link between particular interventions and the impact on health outcomes has been established through research.

Three health outcome areas in this section are linked, focusing primarily on indicators for several large disease groups of considerable interest to the public: cancer, heart disease and stroke. These indicators fit together to "tell the story". For example, incidence and mortality rates show the overall burden of disease for these conditions and provide context for survival rates. Short- and longer-term survival measures reflect the impact of acute care and longer-term care, respectively, and together show where, and to what extent the health system makes a difference to survival. Potential years of life lost (PYLL) reflect the extent of success in preventing premature loss of life due to these specific causes.

Although some health system interventions save lives, most interventions are designed to improve health-related quality of life. This is the intended outcome of joint-replacement surgery and research evidence supports the effectiveness of this surgery in improving health-related quality of life. Hip and knee replacement surgery rates are proposed as surrogate indicators of improved quality of life. These indicators will be used until more comparable and specific measures of patient function and pain associated with various health conditions are routinely measured across the country.

5. CHANGES IN LIFE EXPECTANCY

Changes in life expectancy, as measured by mortality and survival rates, may be used as an indicator of the impact that the health care system makes to survival. The indicators chosen in this report include:

- (a) age standardized mortality rates for lung, prostate, breast, and colorectal cancer, acute myocardial infarction (AMI) and stroke;
- (b) 5-year age standardized survival rates for: lung, prostate, breast, colorectal cancer;
- (c) 30-day risk adjusted inpatient mortality for AMI and stroke; and
- (d) net survival rates for AMI (365-day) and stroke (180 days).

Disease-specific rates identify the number of disease-specific events per 100,000 at-risk population. The at-risk population includes all individuals who are at-risk of the disease. For example, the breast cancer mortality rate represents the number of women who died as a result of breast cancer, expressed as a proportion of the at-risk population (e.g., all women, aged 18 years and older). Females under 18 years and men would not be included in the denominator, because they are not considered at-risk for breast cancer.

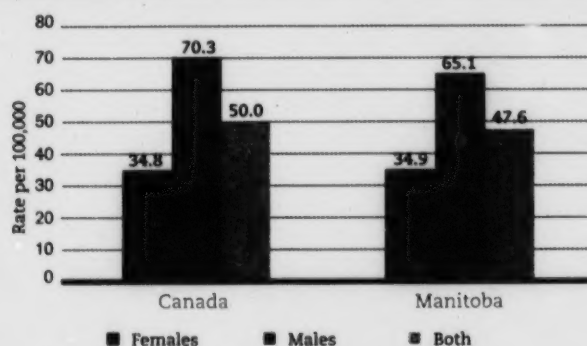
When used for comparison purposes, event data may be expressed as a standardized rate. Because different populations (in this case, provinces) have different age structures, differences in rates may not necessarily reflect differences in disease risk, but a difference in the number of at-risk individuals. A standardized rate then represents Manitoba's disease rate that would have occurred if the age structure was similar to Canada's. In this case, the standard age structure is the 1991 Canadian Census population. It is important to understand that a standardized rate is not an actual number of events. It is a description of what Manitoba's rate would be if it had the standard age structure. As a result, if comparing

the data in this report to those in another report that records age or sex specific rates, the numbers may be quite different. All of the data presented in this section have been standardized according to age, and/or disease risk.

5a. Age Standardized Mortality Rates

Mortality Rates: Lung Cancer

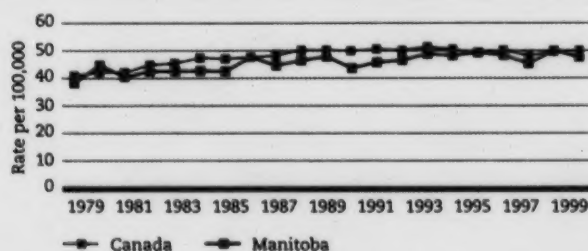
Almost one-third of all cancer deaths in men and almost one quarter in women are due to lung cancer (*National Cancer Institute of Canada: Canadian Cancer Statistics, 2000*). The age standardized mortality rates for lung cancer are seen in Figure 15. The mortality rate due to lung cancer appears greater for males than for females.



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Figure 15.
Age
Standardized
Mortality
Rate for
Lung Cancer,
by Sex,
Manitoba and
Canada, 1999

The age standardized mortality rate for lung cancer has seen an increase over the last 20 years (see Figure 16). Both Canada and Manitoba have witnessed a 22% - 25% increase, respectively, in standardized mortality rate for lung cancer from 1979 to 1999. There appears to be some leveling off since the mid- to late-1980s.



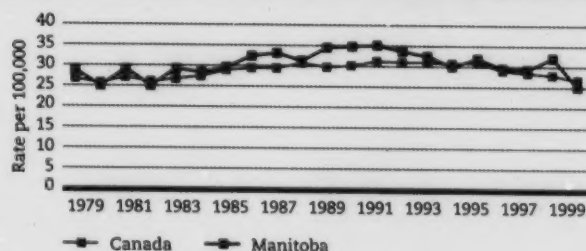
Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Figure 16.
Age
Standardized
Mortality
Rate for
Lung Cancer,
Manitoba
and Canada,
1979-1999

Mortality Rates: Prostate Cancer

Prostate cancer is the most frequently diagnosed cancer for men. In 1999, the age standardized mortality rate for prostate cancer was 25.1 deaths per 100,000 men in Manitoba, and 26.7 deaths per 100,000 men nationally. Both Canada and Manitoba have witnessed a similar trend for prostate cancer (see Figure 17), where the age standardized mortality rates have been decreasing since the mid-1990s. Manitoba has seen declining mortality rates since 1992, and by 1999 the age standardized mortality rate had decreased 12% from 1979. By comparison, the rates for Canada as a whole did not start to decrease until about 1995.

Figure 17.
Age
Standardized
Mortality
Rate for
Prostate
Cancer,
Manitoba
and Canada,
1979-1999

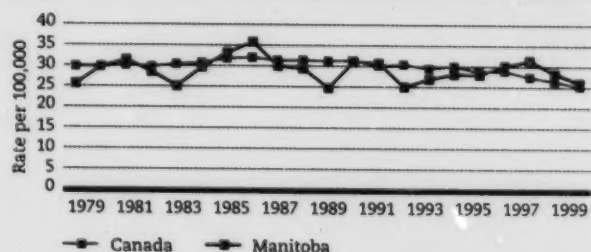


Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Mortality Rates: Breast Cancer

Breast cancer is the most frequently diagnosed cancer for women. In 1999, the age standardized mortality rate for female breast cancer was 26.0 deaths per 100,000 women in Manitoba, and 25.2 deaths per 100,000 women nationally. The Canadian age standardized mortality rate for breast cancer has seen a decrease over the last two decades, especially since 1990. Figure 18 shows that the Canadian rate decreased by about 15% between 1979 and 1999. Comparing the 1979 rate to the 1999 rate, the age standardized mortality rate for breast cancer in Manitoba has not changed much (25.6 per 100,000 in 1979; 26.0 per 100,000 in 1999).

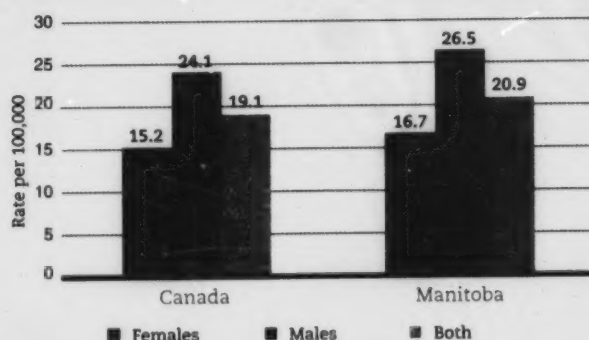
Figure 18.
Age
Standardized
Mortality
Rate for
Breast Cancer
(Female),
Manitoba
and Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Mortality Rates: Colorectal Cancer

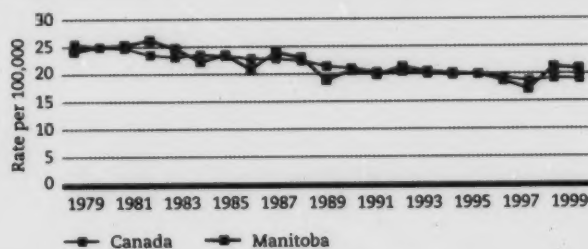
Colorectal cancer is the third leading cause of cancer deaths among both men and women (National Cancer Institute of Canada: Canadian Cancer Statistics, 2000). Figure 19 shows the age standardized mortality rates for colorectal cancer. The mortality rate due to colorectal cancer is about 1.5 times greater for males compared to females, for both Manitoba and Canada.



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Figure 19.
Age
Standardized
Mortality
Rate for
Colorectal
Cancer, by
Sex,
Manitoba
and Canada,
1999

Death rates that decrease over time are often used as a sign of success in disease-specific prevention, detection, and treatment. Figure 20 shows changes over time in the age standardized mortality rate for colorectal cancer for Canada and Manitoba. While the rates fluctuate, both Manitoba and the country as a whole have seen a decrease in the standardized mortality rate over the last decade and a half.



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

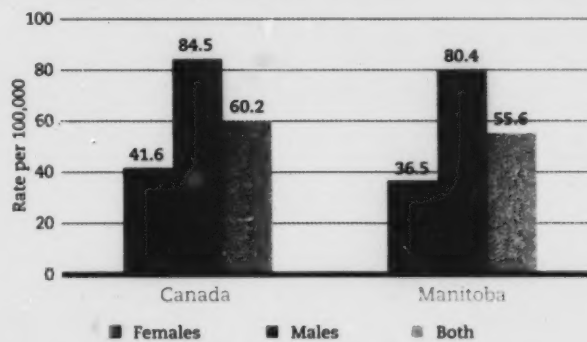
Figure 20.
Age
Standardized
Mortality
Rate for
Colorectal
Cancer,
Manitoba
and Canada,
1979-1999

Mortality Rates: Acute Myocardial Infarction (AMI)

Cardiovascular disease, which includes acute myocardial infarction (AMI) and stroke, is the major cause of death in Canada. Cardiovascular diseases caused one-third of all deaths in 1998, with AMI accounting for 10%.

In Manitoba, the age standardized mortality rate for AMI is 55.6 deaths per 100,000 population (see Figure 21), and this rate is very similar to the Canadian average. The risk of death due to AMI is greater for males compared to females. For both Manitoba and Canada as a whole, the age standardized mortality rate due to AMI for males is more than twice the rate for females.

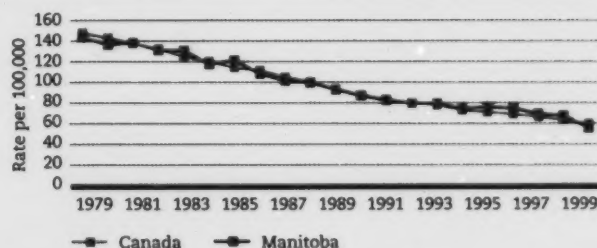
Figure 21.
Age
Standardized
Mortality
Rate for AMI,
by Sex,
Manitoba
and Canada,
1999



Source: Statistics Canada, Vital Statistics, and Demography Division
(census population estimates)

In Canada, as in many countries, there has been a decade-long decline in mortality rates for AMI, and the same is true in Manitoba. Compared to the age standardized mortality rate in 1979, Manitoba has observed a 61% decrease in the mortality rate due to AMI (see Figure 22).

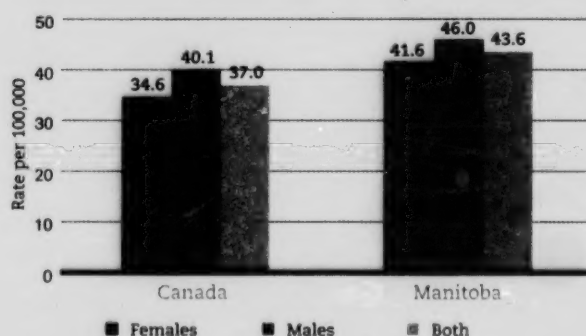
Figure 22.
Age
Standardized
Mortality
Rate for AMI,
Manitoba
and Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, and Demography Division
(census population estimates)

Mortality Rates: All Strokes

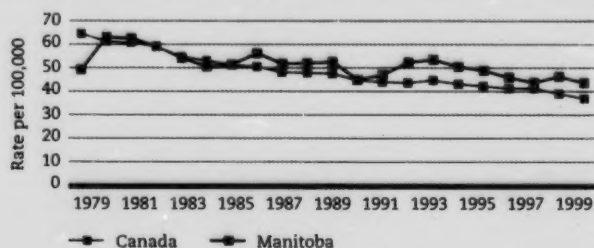
In 1996, cardiovascular disease accounted for 36% of all deaths. Of that number, stroke accounted for 7% of the deaths. In Manitoba, the age standardized mortality rate for stroke is 43.6 deaths per 100,000 population (see Figure 23). The Manitoba rate appears higher than the Canadian average for both males and females. In contrast to the sex differences observed for AMI mortality, the risk of death due to stroke appears similar for males and females.



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Figure 23.
Age
Standardized
Mortality
Rate for
All Strokes,
by Sex,
Manitoba
and Canada,
1999

Similar to the trends observed for AMI, the last two decades have witnessed a decline in the mortality rate due to stroke. Shown in Figure 24, there has been a generalized decrease in the mortality rate for stroke, both nationally and for Manitoba.



Source: Statistics Canada, Vital Statistics, and Demography Division (census population estimates)

Figure 24.
Age
Standardized
Mortality Rate
for All
Strokes,
Manitoba
and Canada,
1979-1999

Data Clarification

All of the mortality data (i.e., lung, prostate, breast, and colorectal cancer, AMI, and stroke) represented only capture residents of Manitoba (for Manitoba statistics) or Canada (for Canadian statistics), regardless of where they died. Non-residents of Canada and/or Manitoba (whichever is appropriate) who died in Canada and/or Manitoba are excluded from the data.

Examining the time trends (i.e., the 1979–1999 longitudinal data), it is apparent that the Canadian rates seem to follow a smoother pattern (either up, down, or stable) compared to the Manitoba rates. It is important to note that, because of Manitoba's relatively small population, the apparent rate instability in the Manitoba data may not indicate true fluctuations in mortality. When calculating mortality rates for a comparatively small population such as Manitoba's, even small changes in number of events can cause large shifts in the rates. It is more accurate to examine Manitoba's cause-specific mortality rates by looking at the overall trend of the data, rather than year-by-year fluctuations.

Finally, it is important to reiterate that the rates reported in the mortality section do not reflect the actual number of deaths that are due to a specific cause. Rather, they reflect the disease-specific rate that would have occurred if the population structure had a standard age structure.

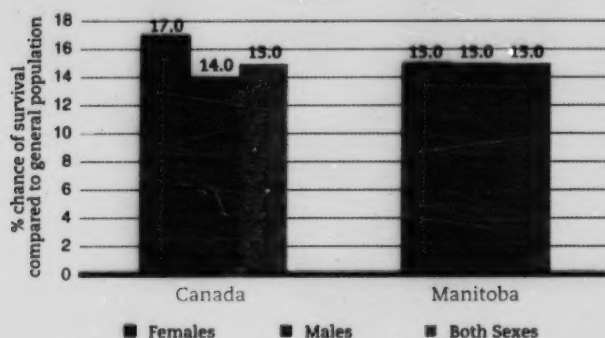
5b. Age Standardized 5-Year Relative Survival Rates for Cancer

The five-year relative cancer survival rate is the survival rate of people diagnosed with cancer five years earlier in comparison to the five-year survival rate of the general population matched for age, sex, and geographic place of residence. In other words, it is a ratio of the survival rate of a group of cancer patients five years after diagnosis compared to the survival rate that would have been expected had they been subject only to the mortality rates of the general population. Relative survival is the most widely used method for analyzing the survival of cancer patients in population studies. It reflects the added likelihood of mortality from cancer of those diagnosed with cancer, compared to a matched population by age and sex. Relative survival rates are expressed as a percentage - the higher the percentage, the greater the likelihood that an individual with a certain cancer will be alive in five years, compared to the general population.

The relative survival rate is influenced by two distinct factors: (1) the severity or stage of the cancer at the time of diagnosis, and (2) the effectiveness of cancer treatment after diagnosis. While the data cannot distinguish the relative contribution of one factor over another, it is noteworthy that both factors have a positive impact on survival. For example, an improvement in screening would result in cancers being detected at an earlier stage, where treatments are generally more successful, resulting in greater survival rates. If there had not been a significant change in screening, better observed survival would indicate more effective and successful cancer treatment after diagnosis.

Five-Year Relative Survival Rates: Lung Cancer

Five-year survival rates for lung cancer are considerably lower than that for other cancers. Shown in Figure 25, Manitobans diagnosed with lung cancer in 1992 were only 15% as likely as the general population to be alive in 1997.



Source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Database, and Canadian and provincial life tables (1990-1992)

Figure 25.
Age
Standardized
5-Year
Survival Rate
for Lung
Cancer,
by Sex,
Manitoba
and Canada,
1997

Five-Year Relative Survival Rates: Prostate Cancer

The mortality rate due to prostate cancer in males has been decreasing. Manitoban men diagnosed with prostate cancer in 1992 were 85% as likely as the general population of men to be alive in 1997. This figure is comparable to the national average five-year relative survival rate of 87%. (Data source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Database, and Canadian and provincial life tables (1990-1992)).

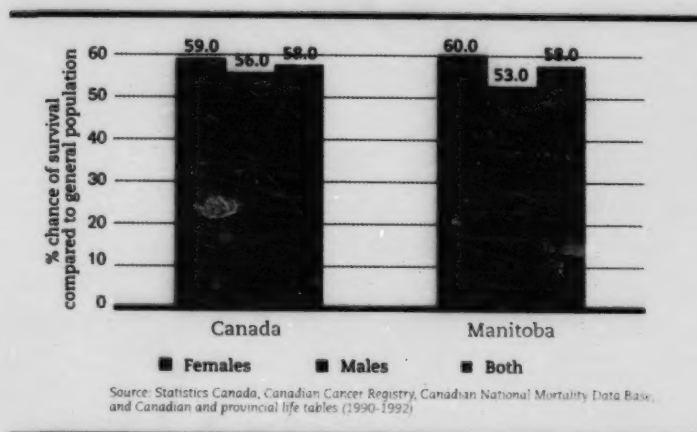
Five-Year Relative Survival Rates: Breast Cancer

As indicated earlier in the mortality section, despite an increase in the incidence of female breast cancer, the mortality rate due to breast cancer has remained stable in Manitoba, and has been decreasing nationally. Manitoban women diagnosed with breast cancer in 1992 were 79% as likely as the general population of women to be alive in 1997. The national average five-year relative survival rate is 82%. (Data source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Database, and Canadian and provincial life tables (1990-1992)).

Five-Year Relative Survival Rates: Colorectal Cancer

The data shown in Figure 26 indicate that both nationally and for Manitoba, individuals diagnosed with colorectal cancer in 1992 were 58% as likely as the general population to be alive in 1997.

Figure 26.
Age
Standardized
5-Year
Survival Rate
for Colorectal
Cancer,
by Sex,
Manitoba
and Canada,
1997



Data Clarification

The five-year survival data are reported only for 1997 and are therefore restricted to cancer cases diagnosed in 1992 that were the first primary cancer for the individual. Because the survival rate compares people diagnosed five years earlier with cancer to those with no such diagnoses, (matched for age, sex, and geography), individual subjects with an unknown year of birth or death were excluded from analyses. Additionally, people younger than 15 or older than 99 years of age at diagnosis, or diagnosed through autopsy or death certificate only were also excluded.

5c. Risk Adjusted 30-Day In-Hospital Mortality Rates for Acute Myocardial Infarction (AMI)

Acute myocardial infarction (AMI) is one of the leading causes of death in Canada. This indicator measures the chances of a patient dying within 30 days of initial hospitalization for AMI. The risk adjusted 30-day in-hospital mortality rate for AMI reflects the proportion of people admitted to an acute care hospital in a given period with a specific primary diagnosis of AMI who died in hospital within 30 days of their admission, regardless of the cause of death. For comparability to the national data, the 30-day mortality data is adjusted for age, sex, and co-morbidity.

The three year average (1997-1999) risk adjusted 30-day in-hospital mortality rate for AMI in Manitoba is 12.1 deaths per 100. This figure is comparable to the similarly low risk adjusted rate for Canada (12.6 deaths per 100) (Source: Hospital Morbidity Discharge Abstract Database, CIHI).

5d. Risk Adjusted 30-Day In-Hospital Mortality Rates for Stroke

Stroke is a major cause of death and disability in the Canadian population. The three year average (1997-1999) risk adjusted 30-day in-hospital mortality rate for stroke in Manitoba is 19.8 deaths per 100. Again, this figure is similar to the low risk adjusted rate for Canada (19.2 deaths per 100). (Source: Hospital Morbidity Discharge Abstract Database, CIHI).

Data Clarification

For both event-specific indicators, i.e., AMI and stroke, individuals were included in the analyses if they were admitted to an acute care facility with a primary diagnosis of either AMI or stroke (whichever applicable) and had not been hospitalized with the same diagnosis within the previous year. Patients less than 20 years of age or greater than 105 years of age upon admission were excluded from the analyses. Patients with an invalid health card number and/or patients treated out of the appropriate jurisdiction (i.e., Manitoba or Canada, whichever is applicable) were also excluded.

To enable comparisons across regions, a complex statistical model was used to adjust for differences in age, sex, and co-morbidity. The analysis to produce the rates was conducted by CIHI and the reported rates were provided by CIHI.

Specific for AMI, patients discharged alive with a total length of stay less than 3 days were excluded from the numerator. Patients transferred from another acute care facility and/or patient records where AMI was coded as a complication, but not as the primary diagnoses, were also excluded.

For both AMI and stroke, it is important to recognize that the patient's death need not be related to the AMI or stroke, whichever is applicable. The specific cause of death is not a qualification in the statistic, but rather that they were hospitalized with an AMI or stroke, and died in-hospital within 30 days of their admission. This indicator may be useful in assessing the effectiveness of in-hospital care following a health event, in this case a stroke or AMI.

The data for this indicator were provided by CIHI. The quality assurance processes for these data are not known and this should be considered when interpreting the data.

Se.f. Net Survival Rate for AMI and Stroke

The net survival rate for individuals with an incident case of AMI or stroke is estimated using the cause-specific survival rate. In the case of AMI, survival is at least 365 days after initial admission to hospital, while for stroke, survival is for at least 180 days. The choice of 365- and 180- day follow-up for AMI and stroke, respectively, is somewhat arbitrary. These periods are long enough to include fatalities that occur almost immediately after the event and over a longer period. They therefore reflect not only trends in the severity of the AMI and stroke themselves but also reflect both immediate emergency care and longer-term health care follow-up.

Since the net survival rate due to AMI or stroke captures both cause and time since hospitalization, a link is needed between Manitoba's hospitalization data and the Vital Statistics cause-specific death data. The cause-specific death data that is provided to Manitoba by Vital Statistics does not have any unique identifiers (such as name or Manitoba Health PHIN) and therefore, cannot be linked to the hospitalization file. As a result, Manitoba is unable to report on these indicators at this time.

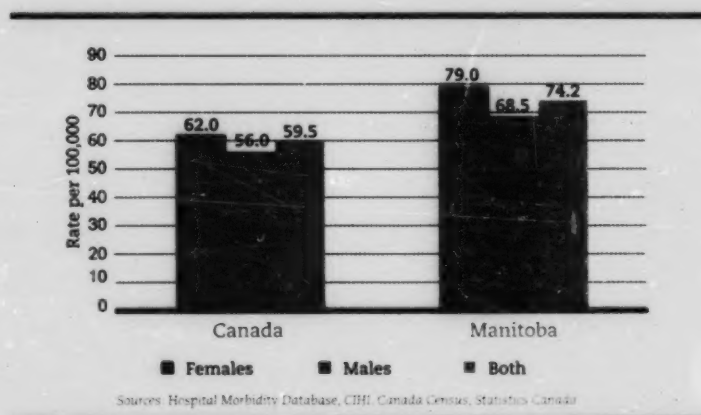
6. IMPROVED QUALITY OF LIFE

Assessing quality of life can be difficult. Overall quality of life has already been noted by two proxy measures: disability-free life expectancy and self-reported health status. Similarly, improvements in quality of life can be assessed using a proximate indicator – elective surgery rates. The intended outcome of most elective surgery is improved health-related quality of life. Recent research in British Columbia looked at 6200 surgeries to determine the appropriateness and health-related outcomes of several types of elective surgery. The results showed that health-related quality of life improved substantially for the great majority of those receiving elective procedures. Over 94% of those receiving a hip replacement reported significant improvement in pain, stiffness and overall functioning (C.J. Wright & Y. Robens-Paradise, *Evaluation of Indications and Outcomes in Elective Surgery*, May 2001, Centre for Clinical Epidemiology and Evaluation, Vancouver Hospital and Health Services Centre.). In this report, two elective surgeries are being used as proximate measures of improved quality of life – total hip replacement rate and total knee replacement rate.

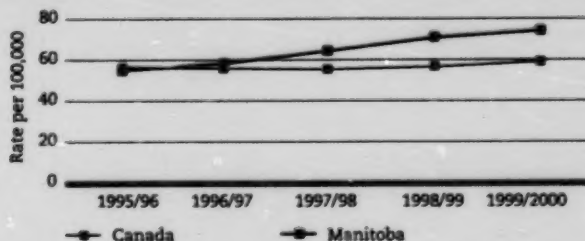
6a. Total Hip Replacement Rate

The total hip replacement rate is the age standardized rate of total unilateral or bilateral hip replacement surgery performed on in-patients in acute care hospitals. In Manitoba, 74.2 individuals per 100,000 population had a total unilateral or bilateral hip replacement during the 1999/2000 fiscal year (a fiscal year, for this report, covers a 12 month period from April 1 of one year to March 31 of the following year). Shown in Figure 27, the reported rate for Manitoba appears to be higher than the Canadian average, both for males and females separately and combined.

Figure 27.
Age
Standardized
Total Hip
Replacement
Rate by Sex,
Manitoba
and Canada,
1999/2000



The total hip replacement rate has increased in Manitoba over the last 5 years. While the Canadian rate has risen by about 5%, Manitoba's reported hip replacement rate has increased by approximately 35% since the 1995/1996 fiscal year (see Figure 28).

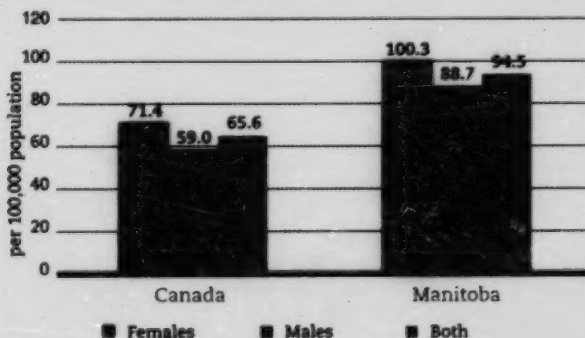


Sources: Hospital Morbidity Database, CIHI, Canada Census, Statistics Canada

Figure 28.
Age
Standardized
Total Hip
Replacement
Rate,
Manitoba
and Canada,
1995/1996-
1999/2000

6b. Total Knee Replacement Rate

The total knee replacement rate is the age standardized rate of total unilateral or bilateral knee replacement surgery performed on in-patients in acute care hospitals. In Manitoba, 94.5 individuals per 100,000 population had a total unilateral or bilateral knee replacement during the 1999/2000 fiscal year. Shown in Figure 29, this rate appears to be greater than the Canadian average, both for males and females separately and combined.

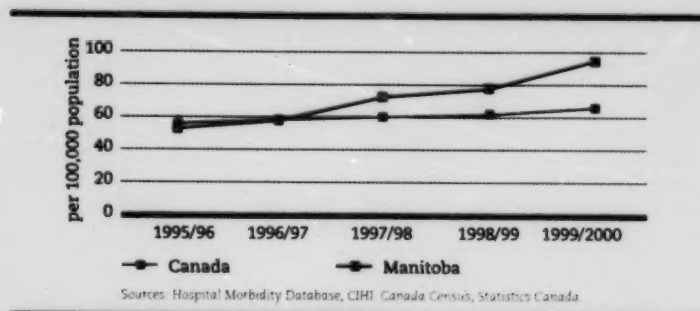


Source: Hospital Morbidity Database, CIHI, Canada Census, Statistics Canada

Figure 29.
Age
Standardized
Total Knee
Replacement
Rate, by Sex,
Manitoba
and Canada,
1999/2000

Similar to the time trend for hip replacements, the total knee replacement rate has increased in Manitoba over the last 5 years. The Manitoba age standardized rate has almost doubled, increasing by 79% since the 1995/1996 fiscal year. Figure 30 also indicates that the Canadian rate has risen over the last 5 years, although by much less (about 18%).

Figure 30.
Age
Standardized
Total Knee
Replacement
Rate,
Manitoba
and Canada,
1995/1996-
1999/2000



Data Clarification

The total hip and knee replacement rates represent the number of patients who received a total hip or knee replacement during their admission in an acute care hospital. These rates, therefore, exclude patients not treated as in-patients in acute care hospitals and those who received their surgery prior to admission. The data for these indicators were drawn from the CIHI databases. The quality assurance processes for these databases are not known and this should be considered when interpreting the data.

7. REDUCED BURDEN OF DISEASE, ILLNESS, AND INJURY

Changes in the number of new cases of certain illnesses (i.e., incidence rates), and the number of potential years of life lost due to those illnesses can show the prevalence of risk factors, and a population's effectiveness in reducing illness-specific risk factors. The indicators chosen in this report include:

- age standardized incidence rates for all cancers, lung, prostate, breast, and colorectal cancer;
- potential years of life lost due to lung, prostate, breast, and colorectal cancer, AMI, stroke, suicide, and unintentional injuries;
- incidence of vaccine-preventable diseases: invasive meningococcal disease, measles, and haemophilus influenza b; and
- prevalence of diabetes.

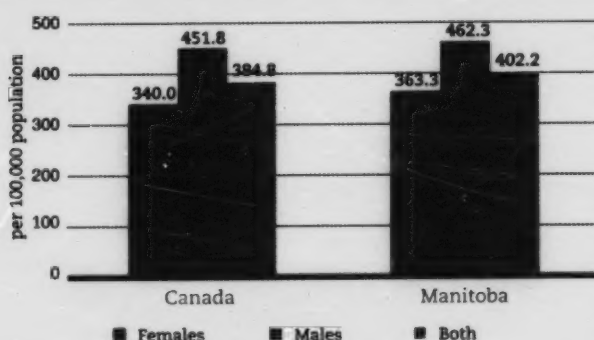
7a. Cancer Incidence Rates

Age-standardized incidence rates measure the appearance of new (or incident) cancers. The incidence rate of any particular cancer is affected by the underlying rate of all cancer incidence, the prevalence of risk factors such as smoking and the success of primary prevention efforts. If primary prevention efforts are effective, the expectation would be a decrease in both the overall cancer incidence rate and site-specific incidence. The incidence of certain types of cancers is also influenced by the rate of detection and diagnosis which likely reflects the intensity and effectiveness of cancer screening programs.

Unfortunately, from the viewpoint of interpreting this indicator, these two factors may work in opposite directions. For example, an increase in measured cancer incidence could reflect either deterioration in healthy life style or an improvement in screening. However, this latter kind of "screening artifact" is unlikely to carry on for a long period of time so that, generally, a declining incidence of cancer suggests a positive change in population health. If better screening techniques increase incidence rates, then it is expected that there will be an apparent sudden peak followed by a leveling off of the incidence rate. A more gradual and steady decrease in incidence may suggest successful primary prevention efforts.

Incidence Rates: All Malignant Neoplasms

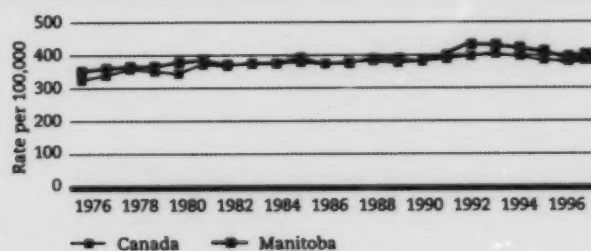
In Manitoba, the age standardized incidence rate for any cancer site in 1997 was 402.2 new cancers per 100,000 population. Compared to the Canadian average of 384.8 new cancers per 100,000 population. The rate for Manitoba men appears to be 1.3 times higher than for women, which is consistent with the national data (See figure 31).



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Figure 31.
Age
Standardized
Incidence
Rate of All
Malignant
Neoplasms,
by Sex,
Manitoba and
Canada, 1997

Over the last 20 years, there has been a decrease in deaths due to cancer (data not shown; National Cancer Institute of Canada: Canadian Cancer Statistics, 2000), while the overall cancer incidence rate has been rising (Figure 32). In the early 1990s there was an apparent increase that seems to correspond with a sharp increase in the incidence of prostate cancer (shown in Figure 35). The Manitoba rate generally mirrors the Canadian figures.



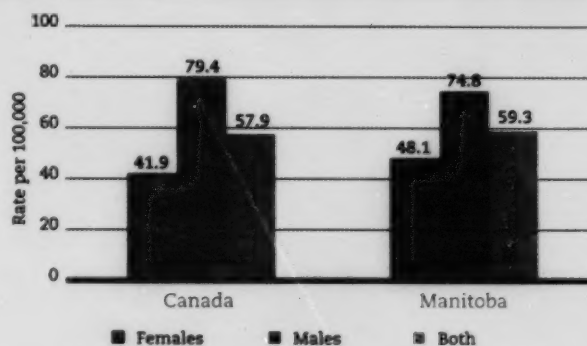
Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Figure 32.
Age
Standardized
Incidence
Rate of All
Malignant
Neoplasms,
Manitoba and
Canada,
1976-1997.

Incidence Rates: Lung Cancer

The age standardized incidence rate for lung cancer in Manitoba for 1997 was 59.3 new lung cancer cases per 100,000 population (shown in Figure 33). The Manitoba rate is again very similar to the Canadian average of 57.9 per 100,000 population. The sex differential seen for most cancers is exaggerated for lung cancer. The rate for Manitoba men may be more than 50% higher than that for women. Across the country, the age standardized lung cancer incidence rate for males is almost twice that for women.

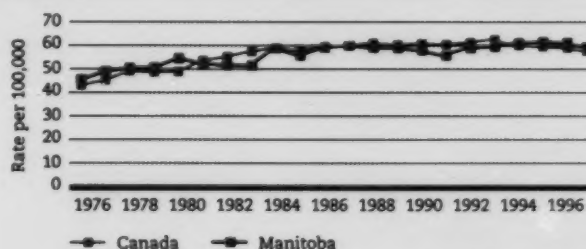
Figure 33.
Age
Standardized
Incidence
Rate of Lung
Cancer,
by Sex,
Manitoba
and Canada,
1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Consistent with the increases in mortality rates due to lung cancer (shown earlier in Figure 16), lung cancer incidence rates have risen over the last two decades. In Manitoba, the 1997 age standardized incidence rate for lung cancer was 30% higher than the 1979 rate. Nationally, a similar trend is seen in Figure 34. The National Cancer Institute of Canada reports that these increases in lung cancer incidence rates are more pronounced for women than for men (*Canadian Cancer Statistics, 2000*).

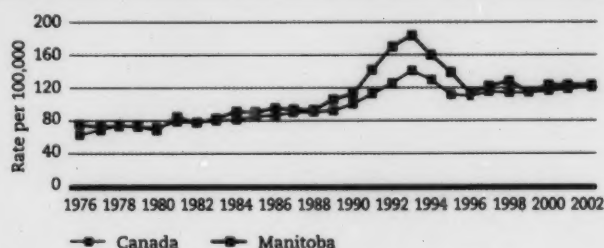
Figure 34.
Age
Standardized
Incidence
Rate of Lung
Cancer,
Manitoba and
Canada,
1976-1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Incidence Rates: Prostate Cancer

The age standardized incidence rate for prostate cancer among males in Manitoba for 2002 was 123.4 new prostate cancer cases per 100,000 population (shown in Figure 35). The Manitoba rate is almost identical to the Canadian average of 120.3 per 100,000 population. Prostate cancer incidence rates have increased since 1979 by 63% for Manitoba while the national rate has almost doubled. Much of this increase may be due to increased use of Prostate Antigen Screening techniques (*National Cancer Institute of Canada: Canadian Cancer Statistics, 2000*). As Figure 35 shows, incidence peaked in the early 1990s and appears to be leveling off.

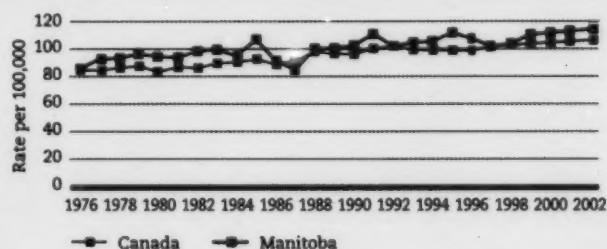


Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Figure 35.
Age
Standardized
Incidence
Rate of
Prostate
Cancer,
Manitoba and
Canada,
1976-2002

Incidence Rates: Breast Cancer

The age standardized incidence rate for breast cancer among females in Manitoba for 2002 was 114.2 new breast cancer cases per 100,000 population (shown in Figure 36). The Manitoba rate is similar to the Canadian average of 106.1 per 100,000 population. Breast cancer incidence rates have continued to rise over the last two decades. The 2002 incidence rates are similar for Manitoba and Canada, and both have witnessed an increased incidence since 1979 — 25% nationally and 33% provincially. Some of Manitoba's recent increase may be due to the province's breast screening program.



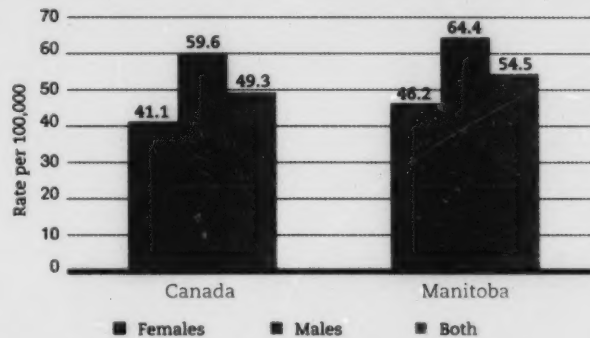
Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Figure 36.
Age
Standardized
Incidence
Rate of Breast
Cancer
(Female),
Manitoba
and Canada,
1976-2002

Incidence Rates: Colorectal Cancer

In Manitoba, the age standardized incidence rate for colorectal cancer in 1997 was 54.5 new colorectal cancer cases per 100,000 population (see Figure 37). The Manitoba rate is similar to the Canadian average of 49.3 per 100,000 population. The rate for Manitoba men appears to be higher than for women. This sex difference is consistent with the national data.

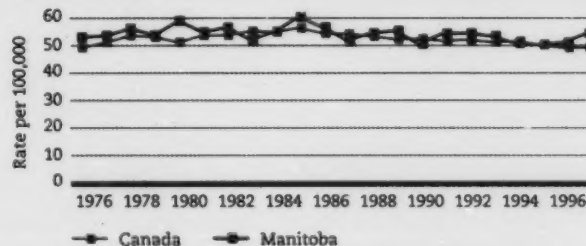
Figure 37.
Age
Standardized
Incidence
Rate of
Colorectal
Cancer,
by Sex,
Manitoba
and Canada,
1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Seen in Figure 38, the age standardized incidence rate of colorectal cancer has remained fairly stable over the last two decades, both for Canada as a whole, and for Manitoba in particular.

Figure 38.
Age
Standardized
Incidence
Rate of
Colorectal
Cancer,
Manitoba and
Canada,
1976-1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

MANITOBA'S BREAST SCREENING PROGRAM

- The Manitoba Breast Screening Program has been in operation, in accordance with Canadian Guidelines, since 1995 and is available to women between the ages of 50-69 years who do not have symptoms of breast cancer. Women are screened every two years at which time they also receive a clinical breast examination and education.

MANITOBA'S CERVICAL CANCER SCREENING PROGRAM

- The Manitoba Cervical Cancer Screening Program, in operation since 2001, is a screening program for women ages 18-69 years using the pap smear to detect pre-cancerous lesions in women with no symptoms. Efforts are made to educate women and health care providers to ensure that pap smear utilization is at an appropriate level. The program includes tracking test results to ensure appropriate follow up with women.

Data Clarification

Cancer incidence rates reflect the number of newly diagnosed primary cancer cases in a given year for specific sites per 100,000 population at risk. Because the Manitoba rates are being presented along with the national averages, the rates have been standardized for comparability. It is important to remember that the age standardized rates are not actual rates, but rather reflect the rate that would have occurred if the given population had the same age structure as a standard population.

Incidence data represent all of the new cases of a specific health event. In other words, they reflect the number of newly diagnosed cases within a given time period in this case, calendar years. For the purpose of cancer incidence, only the primary cancer site is captured in the data. All non-residents of Canada or Manitoba (whichever applicable) are excluded from analyses.

7b. Potential Years of Life Lost

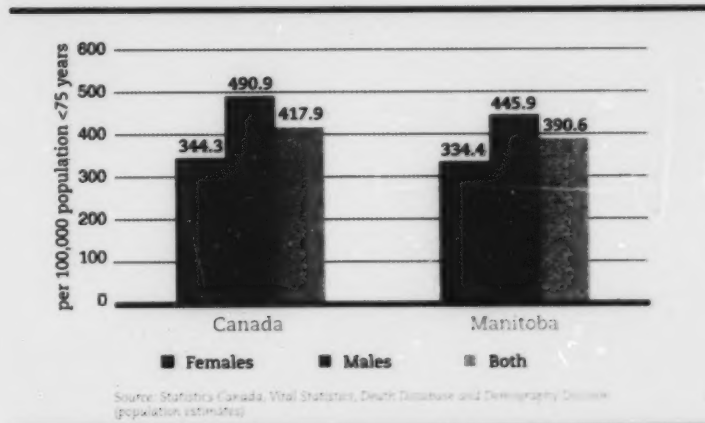
Potential years of life lost (PYLL) is the number of years of life that is lost when a person dies prematurely from any cause. A premature death in Canada is currently defined as dying before age 75. A person dying at age 35, for example, would be assessed as having lost 40 potential years of life. PYLLs can be estimated for a specific cause, where the indicator measures the number of years of life lost because a person died before age 75 due to a specific cause like injury, cancer, AMI or stroke. PYLL measures the impact of death to a younger person on society. Decreases in PYLL reflects the level of success in preventing premature and, therefore, presumably preventable or postponeable loss of life, and the resulting loss of social and economic productivity. It is an overall indicator of a population's health and well being, and effectiveness of preventive programs.

Because PYLL emphasizes deaths among younger people and gives more weight to each death occurring at younger ages, PYLL are expressed as crude rates. That is, the actual number of years of potential life lost per 100,000 population aged 0-74 years, rather than an age standardized number.

PYLL: Lung Cancer

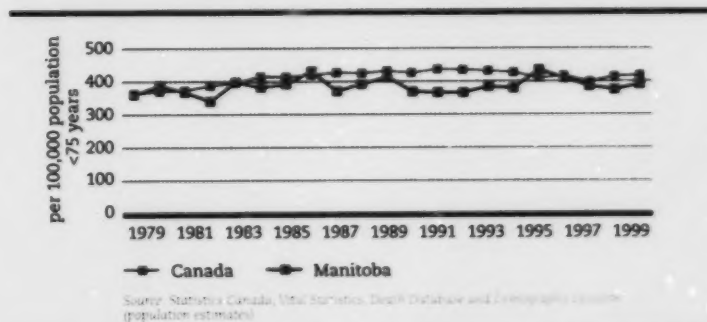
The rate of PYLL due to lung cancer in Manitoba in 1999 was 390.6 per 100,000 population. This means that in a province with roughly 950,000 people under the age of 75 years, about 3700 potential years of life were lost in 1999 due to lung cancer. Shown in Figure 39, the rate for males appears to be higher than the rate for females. The PYLL rate in Manitoba is comparable to the Canadian average.

Figure 39.
Rate of
Potential
Years of Life
Lost due to
Lung Cancer,
by Sex,
Manitoba
and Canada,
1999



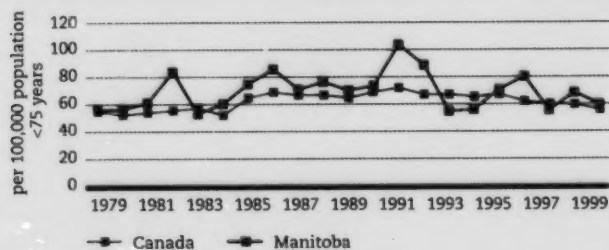
Both Manitoba and Canada as a whole have witnessed increases in both the incidence of and mortality due to lung cancer over the last two decades (Figure 34 and Figure 16, respectively). The Manitoba lung cancer incidence rate has risen by 30% and the mortality rate by 22% from 1979 to 1999. Not surprisingly, the rate of PYLL due to lung cancer has also risen in Manitoba (see Figure 40), however, only by 8% between 1979 and 1999.

Figure 40.
Rate of
Potential
Years of Life
Lost due to
Lung Cancer,
Manitoba and
Canada,
1979-1999



PYLL: Prostate Cancer

The rate of PYLL due to prostate cancer in Manitoba men in 1999 was 59.9 per 100,000 population. This means that in Manitoba, about 569 potential years of life were lost due to prostate cancer in 1999. Shown in Figure 41, the PYLL rate for Manitoba is very similar to the national PYLL rate.

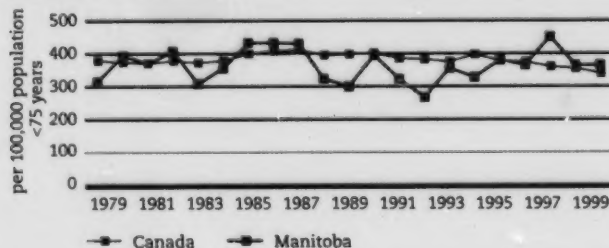


Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Figure 41.
Rate of
Potential
Years of Life
Lost due to
Prostate
Cancer,
Manitoba
and Canada,
1979-1999

PYLL: Breast Cancer

The rate of PYLL due to breast cancer in Manitoba women in 1999 was 364.2 per 100,000 population. This means that in Manitoba, about 3400 potential years of life were lost in 1999 due to breast cancer. Shown in Figure 42, the PYLL rate for Manitoba is similar to the national PYLL rate.



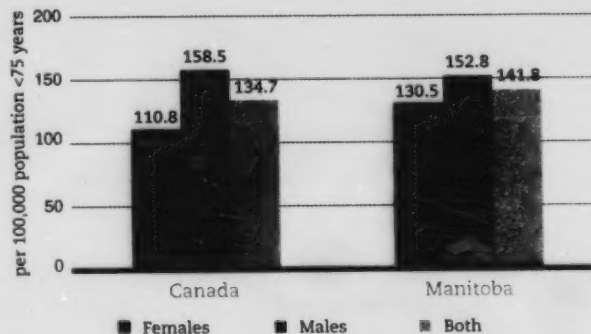
Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Figure 42.
Rate of
Potential
Years of Life
Lost due to
Breast
Cancer,
(Female),
Manitoba
and Canada,
1979-1999

PYLL: Colorectal Cancer

The rate of PYLL due to colorectal cancer in Manitoba in 1999 was 141.8 per 100,000 population. This means that in Manitoba, about 1300 potential years of life were lost in 1999 due to colorectal cancer. Seen in Figure 43, the rate for males appears to be higher than the rate for females. The Manitoba PYLL rate is comparable to the Canadian average.

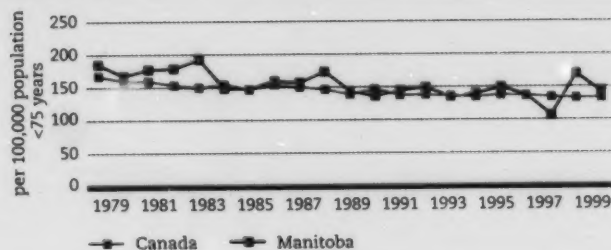
Figure 43.
Rate of
Potential
Years of Life
Lost due to
Colorectal
Cancer,
by Sex,
Manitoba and
Canada, 1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Similar to the decreasing mortality rate for colorectal cancer, both Manitoba and Canada as a whole have seen a decrease in the number of deaths under age 75 due to colorectal cancer. The PYLL rate in 1999 for Manitoba is 23% lower than the 1979 rate (Figure 44).

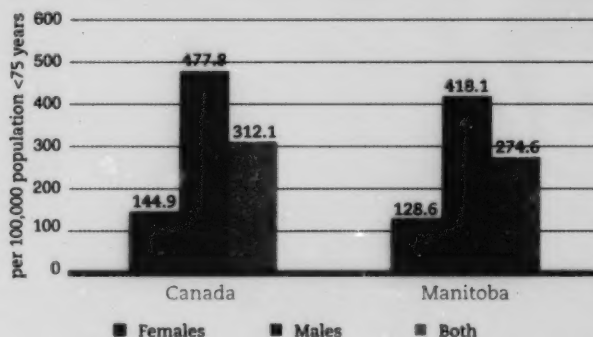
Figure 44.
Rate of
Potential
Years of Life
Lost due to
Colorectal
Cancer,
Manitoba and
Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

PYLL: Acute Myocardial Infarction

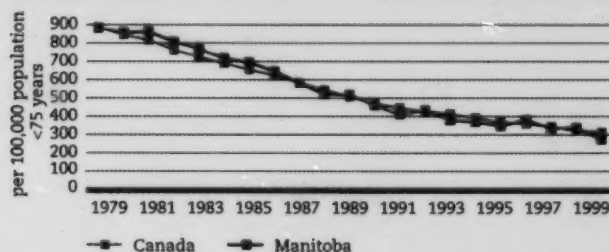
The rate of PYLL due to acute myocardial infarction in Manitoba in 1999 was 274.6 per 100,000 population. In other words, about 2600 potential years of life were lost in Manitoba in 1999 due to AMI. Shown in Figure 45, the rate of PYLL for males appears to be three times higher than the rate for females. The PYLL rate in Manitoba appears to be comparable to the Canadian average.



Source: Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates)

Figure 45.
Rate of
Potential
Years of Life
Lost due to
AMI, by Sex,
Manitoba and
Canada, 1999

The time trends for rate of PYLL due to AMI are shown in Figure 46. Over the last two decades there has been a consistent decrease in the rate of PYLL due to AMI. This decrease of more than 65% for both Manitoba and Canada mirrors the 60% decrease in mortality rates due to AMI during the same time period.



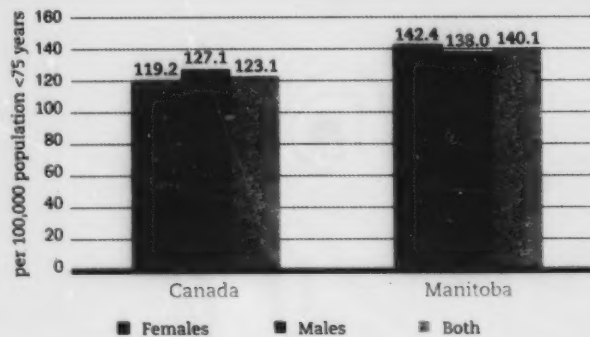
Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Figure 46.
Rate of
Potential
Years of Life
Lost due to
AMI,
Manitoba
and Canada,
1979-1999

PYLL: Stroke

The rate of PYLL due to stroke in Manitoba in 1999 was 140.1 per 100,000 population, meaning that about 1300 potential years of life were lost in Manitoba in 1999 due to stroke. Shown in Figure 47, the rate of PYLL is almost the same for males as it is for females. Similar to the mortality data for stroke (shown in Figure 23), the PYLL rate in Manitoba may be higher compared to the Canadian average, particularly for women.

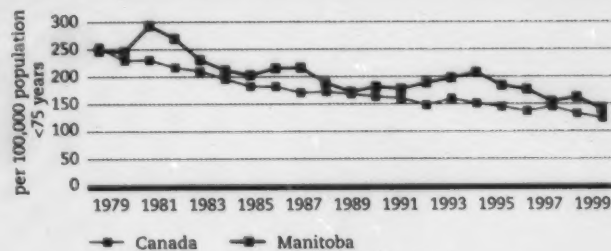
Figure 47.
Rate of
Potential
Years of Life
Lost due
to Stroke,
by Sex,
Manitoba and
Canada, 1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

The time trends for rate of PYLL due to stroke are shown in Figure 48. Similar to the data for AMI, the last two decades have witnessed a decrease in the rate of PYLL due to stroke.

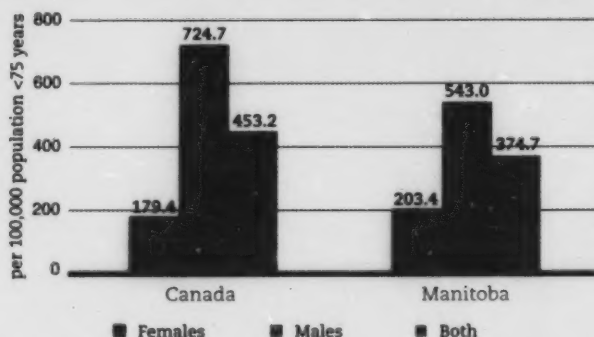
Figure 48.
Rate of
Potential
Years of Life
Lost due
to Stroke,
Manitoba and
Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

PYLL: Suicide

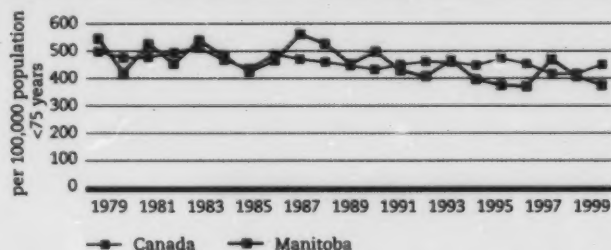
The rate of PYLL due to suicide in Manitoba in 1999 was 374.7 per 100,000 population. In other words, about 3500 potential years of life were lost in Manitoba in 1999 due to suicide. Shown in Figure 49, the national rate of PYLL due to suicide was 453.2. For both Canada as a whole and Manitoba, the rate of PYLL due to suicide appears greater for males than for females.



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Figure 49.
Rate of
Potential
Years of Life
Lost due to
Suicide,
by Sex,
Manitoba and
Canada, 1999

The time trends for rate of PYLL due to suicide are shown in Figure 50. There appears to be an overall decrease in the rate of PYLL for suicide.



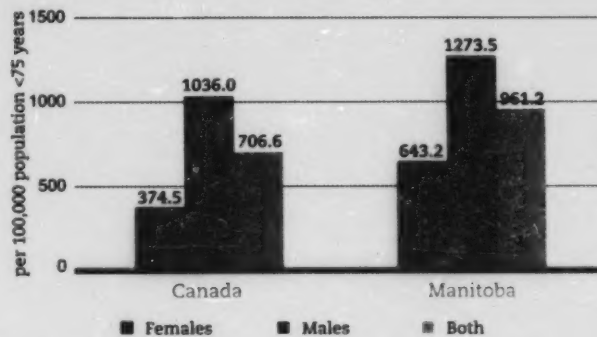
Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

Figure 50.
Rate of
Potential
Years of Life
Lost due to
Suicide,
Manitoba and
Canada,
1979-1999

PYLL: Unintentional Injuries

The rate of PYLL due to unintentional injuries (i.e., not suicide or violence inflicted by others) in Manitoba in 1999 was 961.2 per 100,000 population, which is more than 9000 potential years of life lost in Manitoba due to unintentional injuries. The rate for Canada was 707.6 per 100,000 population. The rate of PYLL due to unintentional injuries appears to be much higher for men than women, both in Manitoba and nationally (See Figure 51).

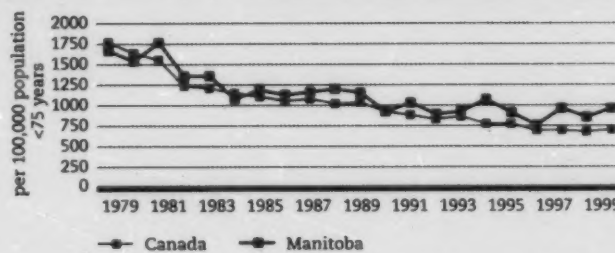
Figure 51.
Rate of
Potential
Years of Life
Lost due to
Unintentional
Injuries,
by Sex,
Manitoba and
Canada, 1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

The time trends for rate of PYLL due to unintentional injuries, shown in Figure 52, indicates that the rate of PYLL has decreased over the last two decades.

Figure 52.
Rate of
Potential
Years of Life
Lost due to
Unintentional
Injury,
Manitoba and
Canada,
1979-1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division (population estimates)

CHILDHOOD INJURY

- Manitoba Health has begun preliminary work with IMPACT and other key departments and partners toward a provincial response to the impact of injury mortality and morbidity to Manitobans. Preliminary activity has included a radio & TV campaign aimed at reducing childhood injury in the home (over 6000 information packages were distributed to families) and an injury conference in May 2002.

Data Clarification

The rate of potential years of life lost represent the number of deaths occurring to individuals under the age of 75 years multiplied by the number of years before 75 that were lost. It is rate of deaths that gives greater weight to younger deaths. Individuals 75 years and older are excluded from the analyses. Non-residents of Canada and/or Manitoba were also excluded from both the deaths and population estimates.

Nationally, in the 1970s and 1980s, PYLL was based on age less than 70 years. Other cut-offs have been used by different countries and at different points in time. Any work done now on PYLL, based on age less than 75, will differ from published data on PYLL from most previous Canadian sources and should not be compared with each other. The choice of age 70 or 75 is somewhat arbitrary, although it does reflect the minimum amount of years an individual is expected to live. The choice of age 70 or 75 is unlikely to greatly affect time trends or inter-provincial comparisons.

It should be noted that, as age increases, co-morbidity (i.e., having more than one serious illness or condition) is more frequent and death is often the result of a complex process. This can make PYLL more meaningful for diseases that can be identified as the sole cause of death and for those diseases that kill at an early age. Unfortunately, PYLL is only based on single causes of death statistics.

7c. Incidence of Vaccine-Preventable Diseases

Incidence Rates: Invasive Meningococcal Disease

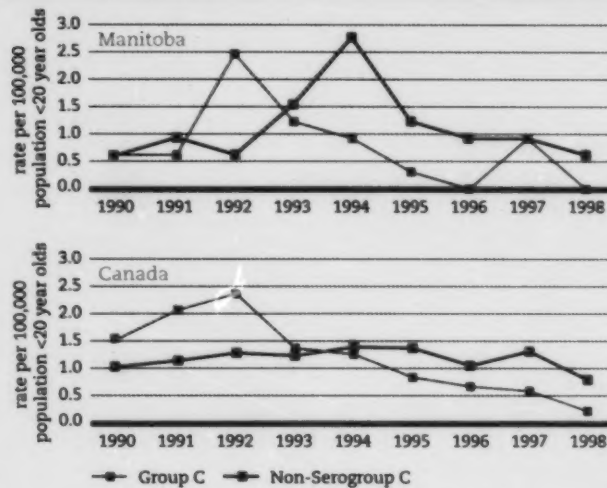
Invasive meningococcal disease is an acute bacterial disease. The incidence rate of meningococcal disease reflects the rate of new cases reported by year, age and strain (i.e., group C or all other groups) for the population under 20 years of age. These rates are crude rates in that the numbers reflect the actual incidence of the disease and have not been age standardized.

In the nine years of data shown in Figure 53, both nationally and in Manitoba, there appears to have been a reduction in rates for invasive meningococcal disease group C. Manitoba had no new cases of invasive meningococcal disease group C in 1998, and a rate of 0.92 per 100,000 population in the previous year. Similarly, the country as a whole has a steady rate of roughly 0.92 new cases per 100,000 population. As seen in Figure 53, the incidence trend for invasive meningococcal disease non-serogroup C shows a different pattern for Manitoba compared to the national time trend. Nationally, the incidence rate has been stable over the last 10 years, staying around 1.5 new cases per 100,000 population. In Manitoba, there was an increase between 1992 and 1994, after which there has been a leveling off in the incidence rate.

The instability in the Manitoba rate may reflect cycles of invasive meningococcal disease in

the province.

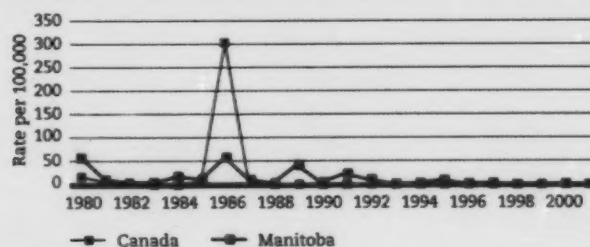
Figure 53.
Incidence
Rate for
Invasive
Meningococ-
cal Disease,
Manitoba and
Canada,
1990-1998



Incidence Rates: Measles

A confirmed case of measles is defined as a laboratory confirmation of infection in the absence of recent immunization with measles-containing vaccine. The measles incidence rate is reported as the number of new cases per 100,000 total population. Since an outbreak of measles can affect any segment of the population that is not fully immunized, the incidence rate for measles is not age adjusted, but rather is reported as a crude rate.

In developed countries that encourage full immunization practices like Canada, a one-dose immunization schedule means that there may be periodic outbreaks, which makes data subject to significant fluctuation. Across Canada, there have been some sporadic outbreaks throughout the late 1980s and into the early 1990s. Over the last 20 years, Manitoba has witnessed only one major outbreak, occurring in 1986, where our incidence rate spiked to 303.8 per 100,000 population (shown in Figure 54). Since one-dose immunizations for measles are less than 100% effective across time, a significant pool of susceptible individuals, usually children, builds up in a population, leading to sporadic outbreaks (*Canadian Immunization Guide, Sixth Ed., 2002*). In 1996/1997 all regions of Canada (Manitoba included) switched to a 2 dose immunization schedule (at 12 months and school entry). Since then, there has been a marked reduction in the measles incidence rates. Nationally the rates have been near zero since 1996. In Manitoba, there has not been a single case of measles since 1994, with the exception of 1999 when the rate was 0.09 per 100,000.



Source: Notifiable Disease Reporting and Enhanced Surveillance System

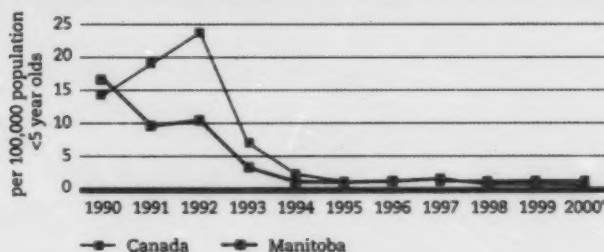
Figure 54.
Incidence
Rate of
Measles,
Manitoba and
Canada,
1980-2001

Incidence Rates: *Haemophilus Influenza b* (invasive) in Children

A confirmed case of *haemophilus influenza b* (invasive Hib) is defined as an invasive disease with laboratory confirmation of infection in the absence of recent immunization with Hib-containing vaccine. Invasive Hib disease includes meningitis, bacteraemia, epiglottitis, pneumonia, pericarditis, septic arthritis or empyema.

Hib was the most common cause of bacterial meningitis and a leading cause of other serious invasive infections in children prior to the introduction of Hib vaccines. Vaccine preventable cases are now rare. The population considered at risk for *Haemophilus influenza b* (invasive) is children under 5 years old. The Hib rates show the number of new cases reported each year in children under 5 years and are expressed as a proportion of all children under 5 years.

After observing high rates in the early 1990s, both Manitoba and Canada have had low rates of *Haemophilus influenza b* (invasive) since 1995. In 2000, the Hib rate for Manitoba was 1.32 new cases per 100,000 children under 5 years, which represents a 90% decrease since the 1990 rate of 14.39 cases per 100,000 (see Figure 55). Similarly, Canada as a whole has witnessed a drop since 1990 (rate of 16.62 per 100,000), with a 2000 incidence rate of 0.65 cases per 100,000 children under 5 years. The increase in rates observed from 1990 to 1992 are likely a reflection of increased surveillance, that is, the reporting of cases.

Source: Notifiable Disease Reporting and Enhanced Surveillance System
*2000 data are provisional

The sudden decrease in rates between 1992 and 1993 are due to the introduction of a new, highly effective vaccine.

Figure 55.
Incidence Rate
of *Haemophilus*
Influenza b
(Invasive),
Manitoba

Data Clarification

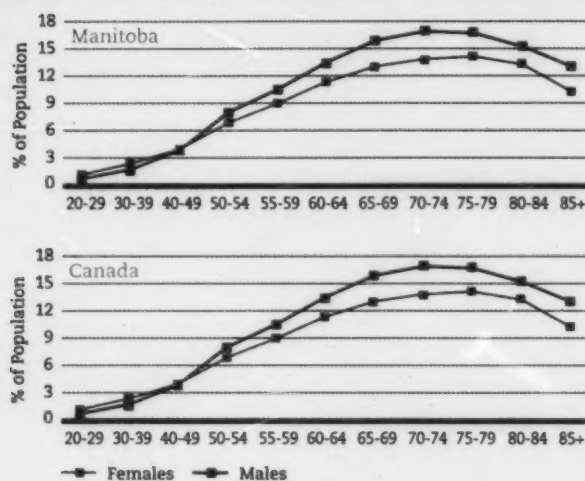
Incidence rates represent the number of new, or incident cases of a particular disease or condition as a proportion of the population at risk for that disease or condition. For each of the three vaccine-preventable diseases reported here, the population at risk is unique to the specific disease. For invasive meningococcal disease, children and youth under 20 years of age are most susceptible, and are the primary targets of most immunization programs, particularly for group C invasive meningococcal disease. The incidence rate for invasive meningococcal disease then, is the number of new cases divided by the total population of people under 20 years of age. By contrast, an outbreak of measles can affect any segment of the population that is not fully immunized, so the population at risk for measles is the total population. Children under 5 years of age are considered at risk for *Haemophilus influenzae* b (invasive), so the Hib (invasive) rates are expressed as the number of new cases reported each year for children under 5 years as a proportion of all children under 5 years.

The vaccine-preventable rates shown in this section were calculated using data from laboratory and other reporting systems. There may be some under-reporting or delays in data reporting.

7d. Prevalence of Diabetes

The diabetes period prevalence rate is the proportion of individuals aged 20 and over that meet the case definition of diabetes within a specific time period. While incidence counts only new cases within a specific time frame, prevalence counts anyone who is living with the disease or condition at a specific point in time, regardless of when they were diagnosed, plus the new number of cases.

Figure 56 shows the 1999-2000 period prevalence rate of diabetes for males and females separately by age group for both Manitoba and Canada. Both nationally and for Manitoba, males appear to have a higher prevalence rate of diabetes than females starting with the 50-54 year age group. In Manitoba, this sex difference continues to increase until it peaks in the 70-74 year age group, where it appears to level off. This pattern is similar for Canada as a whole.



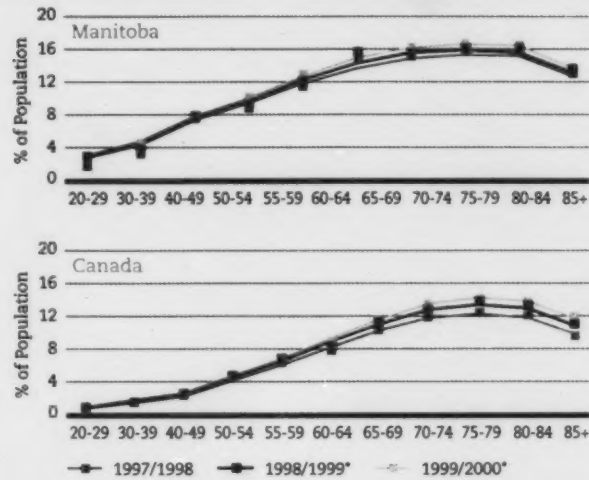
Source: National Diabetes Surveillance System

Figure 56.
Age
Standardized
Diabetes
Prevalence
Rate by Age
Groupings,
by Sex,
Manitoba and
Canada,
1999/2000

Tracking changes in prevalence over time can help show the burden that an illness poses and can help identify which secondary and tertiary prevention efforts can be mobilized. Figures 57 and 58 show the rising prevalence of diabetes since the National Diabetes Surveillance System (NDSS) has been collecting data.

Among females in both Manitoba and nationally, the diabetes prevalence rate has been rising over the last three years. The National Diabetes Surveillance System is a new system, and with the first years of data, rising prevalence is in part due to the incomplete detection of all existing cases when only two or three years of data are available. Some of this increase may also be due to changes in the clinical case definition of diabetes, an increase in awareness and, therefore, screening for diabetes, and reporting patterns.

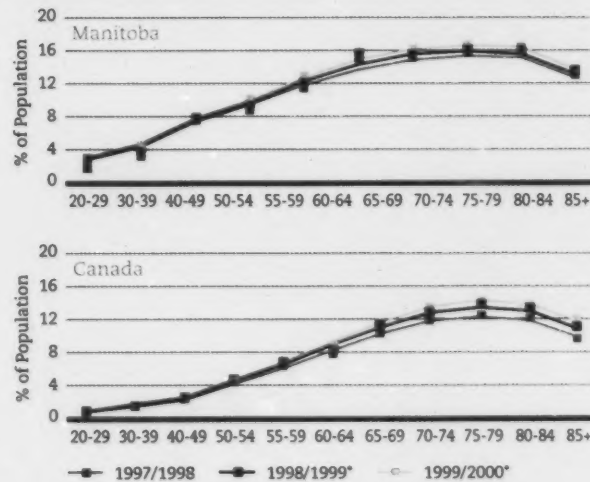
Figure 57.
Age
Standardized
Diabetes
Prevalence
Rate by Age
Groupings,
(Females),
Manitoba and
Canada,
1997/1998-
1999/2000



Source: National Diabetes Surveillance System
*Data is preliminary

Similar to females, the diabetes prevalence rate for men nationally and for Manitoba appears to have risen over the last three years. Again, rising prevalence is in part due to the incomplete detection of all existing cases when only two or three years of data are available.

Figure 58.
Age
Standardized
Diabetes
Prevalence
Rate by Age
Groupings,
(Males),
Manitoba and
Canada,
1997/1998-
1999/2000



Source: National Diabetes Surveillance System
*Data is preliminary

DIABETES: A MANITOBA STRATEGY

- This strategy contains 53 health goals for diabetes prevention, education, care, research and support. The purpose of this strategic plan is to reduce the burden of illness of diabetes and its complications within Manitoba. Over half of the recommendations have been fully or partially implemented by Manitoba Health, Regional Health Authorities and other partners.

Data Clarification

The diabetes prevalence rate reflects the proportion of individuals over the age of 20 years who have met the case definition of diabetes and are still alive. The case definition for a clinically diagnosed case of diabetes, using the administrative data, is to have at least two separate physician claims for diabetes within 2 years of each other or at least one hospital separation record with a diagnosis of diabetes. The date of diagnosis of clinical diabetes is defined by the first physician claim for diabetes, followed within 2 years by either a subsequent diabetes claim, or by a hospitalization record with a diabetes diagnosis. The prevalence rate is expressed as a proportion of the total population over the age of 20 that were eligible for health insurance during the time period chosen. People not insured at some time during the fiscal year, and those under 20 years of age were excluded from the analyses.

The determination of who in Manitoba has diabetes was made using the information systems of Manitoba Health. Because these systems were not designed primarily for the purposes of identifying and tracking diabetes patients, the diabetes counts derived from these systems may not be complete. The data are believed to under-represent the actual number of Manitobans with diabetes.

QUALITY OF SERVICE

Quality of service indicators look at different parts of health service quality, for example appropriateness, effectiveness, accessibility and acceptability of health services. The indicators do not address all the areas that can affect quality such as efficiency or safety, mainly because of the limitations of existing data.

8. WAIT TIMES FOR KEY DIAGNOSTIC AND TREATMENT SERVICES

Wait times are one indicator of how well a health care system is serving patients' needs. Wait lists allow doctors and hospitals to schedule patients based on medical need. A patient who requires emergency treatment typically would not go on a wait list.

Systematic collection and comparison of wait time data is complex. Historically, different groups have defined and monitored wait times in different ways. For example, some calculate wait times from when a person first visits a family doctor. Others start the clock when the patient is assessed by a specialist or when test results confirm the need for further treatment or from some other point. There are advantages and disadvantages to each approach.

There is no single wait list for all patients. Hospitals keep wait lists for some procedures. Many doctors have their own wait lists for appointments and surgeries. Wait times depend on many factors such as the scheduling of surgeries by hospitals; availability of hospital beds; the health of the patient; and the workload of the doctor. At this time, little evidence exists to show what an appropriate wait time is for most surgeries or procedures.

Patients who need non-emergency care are assessed by their doctor who determines the severity of the illness and the potential harm to the patient if treatment is delayed. Patients are then scheduled according to urgency.

Median wait times are one way to measure how long patients may wait for a procedure. Most patients will not wait the exact amount of time as the median wait time. Patients who require more urgent treatment will wait for a shorter period. Patients in hospitals that are less busy may also experience shorter wait times. Some patients may choose to wait for a specific doctor or be receiving treatment that delays the procedure.

Provincial/territorial health systems/authorities have a role in achieving reasonable wait times for services by ensuring effective management of wait lists and operating room schedules, effective bed utilization strategies, and appropriate budget allocation for prevention, treatment and follow-up care. This report will address wait times for:

- a) cardiac surgery;
- b) hip and knee replacement surgery;
- c) radiation therapy for breast and prostate cancer; and
- d) specialist, diagnostic tests, and surgery.

8a. Wait Times: Cardiac Surgery

For this indicator, the Performance Indicators Review Committee requirements specify that reporting should be the wait time between cardiac catheterization and Cardiac Artery Bypass Graft (CABG) surgery. Because of data availability for this report, wait times for (CABG) surgery are measured from the time a surgeon, with the patient's agreement, decides the patient needs surgery. This is an important, but certainly not the only wait that a person might experience between development to resolution of cardiac symptoms. As systems for monitoring wait times are further developed, it is expected that more comprehensive reporting on wait times will be possible.

Cardiac Surgery: Months to Clear Wait List

This specific wait time indicator estimates the number of months it takes to clear the wait list for CABG surgery. This is an administrative measure of wait times that does not reflect the amount of time a patient could expect to wait. The data reflect the total number of adults aged 20 years and over where a surgeon has identified the need for CABG surgery, but where the surgery has not taken place by the last day of the time frame in question. It is expressed as a proportion of the average number of CABG surgeries completed per month within the specified time period. All patients are included, even if some chose to wait because of personal choice, or if surgery was delayed due to another illness. Additionally, all emergent and elective cases are included.

The average number of months that it took to clear the wait list for CABG surgery in the 2001/2002 fiscal year was about 1.3 months, although this time fluctuated between quarters. Table 1 details the actual number of patients awaiting CABG surgery at the end of each quarter, the average number of CABG surgeries completed per month during each quarter, and the total number of CABG surgeries completed during the quarter.

Table 1.

Coronary Artery Bypass Graft Wait for Manitoba, 2001/2002

	April -June/2001	July-Sept/2001	Oct-Dec/2001	Jan-March/2002
Number of patients waiting for CABG at the end of each quarter (A)	44	82	113	96
Average number of CABG surgeries done per month in each quarter (B)	59.7	60.3	65.7	64.3
Length of time to clear wait list (A/B)	.7 months	1.4 months	1.7 months	1.5 months
Total number of CABG surgeries done in each quarter	179	181	197	192

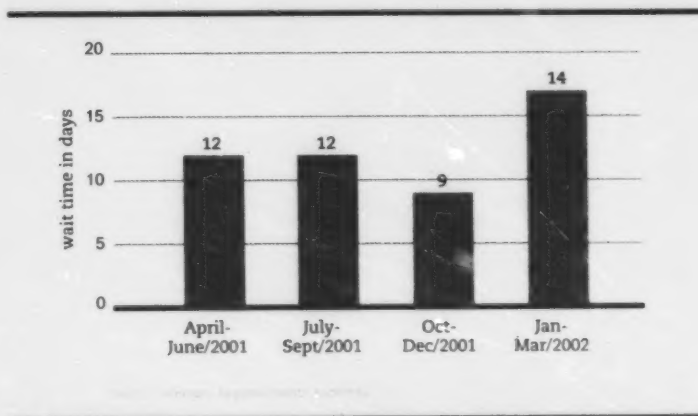
Source: Winnipeg Regional Health Authority

Cardiac Surgery: Median Wait Time for Surgery

This wait time indicator measures the median number of days that individuals aged 20 years and older waited for CABG surgery in Manitoba during the 2001/2002 fiscal year. The median wait time represents the midpoint, or 50th percentile, of all the wait times. Half the patients who had surgery will have waited less than the median wait time, and half the patients will have waited more. Similar to the previous data, all patients are included even if they waited because of personal choice or other illness. Additionally, all emergent and elective cases are included.

In 2001/2002, the median wait time for CABG surgery ranged between 9 and 14 days for the quarters reported in Figure 59.

Figure 59.
Median Wait
Time for
Coronary
Artery Bypass
Graft Surgery
in Manitoba,
2001/2002



Cardiac Surgery: Distribution of Wait Times

Table 2 indicates both the proportion and the actual number of patients aged 20 years and older who waited less than 15 days, 15-42 days, 43-180 days, and more than 180 days, between having a surgical designation and actually receiving CABG surgery. Again, all patients are included even if they waited because of personal choice or other illness, and all emergent and elective cases are included in the analyses.

Table 2.
Distribution of Wait Time for Coronary Artery Bypass Graft Surgery in
Manitoba, 2001/2002

Wait Time for Coronary Artery Bypass Graft Surgery in Days								
	Less than 15 days		15 - 42 days		43-180 days		More than 180 days	
	# of patients	% of patients	# of patients	% of patients	# of patients	% of patients	# of patients	% of patients
April-Jun/2001	104	58.1%	23	12.9%	38	21.3%	14	7.9%
July-Sept/2001	100	55.2%	29	16.0%	41	22.7%	11	6.1%
Oct-Dec/2001	122	61.9%	15	7.6%	53	26.9%	7	3.6%
Jan-March/2002	98	51.0%	32	16.7%	59	30.7%	3	1.6%

Source: Winnipeg Regional Health Authority

CENTRAL CARDIAC WAIT LIST

- As of July 1999, a Central Cardiac Wait List process was implemented in Winnipeg in collaboration with the Cardiac Care Network of Ontario.
- A Cardiac Wait List coordinator oversees the Central Cardiac Wait List process and monitors the condition of all the cardiac surgery patients who are stable and waiting for their surgical procedure so that significant changes in their condition may be detected.

Data Clarification

For cardiac surgery wait times, the data reflect only "isolated" CABG cases, uncomplicated by any other procedure (e.g., valve repair or replacement). Because of differences in urgency rating processes across the country, all isolated CABG cases, be they emergent, urgent, semi-urgent, or elective, are captured. The data are reported for patients who have had surgery in Winnipeg, regardless of their place of residence. All patients in the database are 20 years and older.

8b. Wait Times: Hip and Knee Replacement Surgery

Information on wait times for hip and knee replacement surgery, also called arthroplasty, in Manitoba has only recently been gathered, and does not reflect all hip and knee replacement surgeries performed in the province. Information is collected by the Winnipeg Regional Health Authority (WRHA) from surgeons' offices. The database does not include joint replacements done outside of Winnipeg. During the quarters reflected in these data, there were between 13 and 15 surgeons submitting arthroplasty waiting list information to the WRHA. These 13 to 15 surgeons represent 60-65% of the total volume of arthroplasty done in Winnipeg.

Hip and Knee Replacement Surgery: Months to Clear Wait List

This wait time indicator estimates the average number of months it takes to clear the wait list for either total hip or knee replacement surgery. This is an administrative measure of wait times that does not reflect the amount of time a patient could expect to wait. The data reflect the total number of adults aged 18 years and over where a surgeon has identified the need for hip or knee replacement surgery, but the surgery has not taken place by the last day of the time frame in question. It is expressed as a proportion of the average number of surgeries completed per month within the specified time period. Because of the nature of the database, patients who waited because of personal choice or illness are excluded from analysis. All emergent and elective cases are included.

For the period of October 2001 to March 2002, the average number of months that it took to clear the wait list was approximately 5.5 months for total hip replacement surgery, and approximately 6 months for knee replacements. Table 3 details the actual number of patients awaiting hip and knee replacement surgery at the end of each quarter the average number of surgeries completed during each quarter, the time to clear the wait list, and the total number of surgeries completed during the quarter.

Table 3.

Hip and Knee Replacement Surgery Wait List* in Manitoba, 2001/2002

	Total Hip Replacement Surgery		Knee Replacement Surgery	
	Oct-Dec/2001	Jan-March/2002	Oct-Dec/2001	Jan-March/2002
Number of patients waiting for surgery at the end of each quarter (A)	228 (93% from Manitoba)	238 (94% from Manitoba)	431 (93% from Manitoba)	452 (94% from Manitoba)
Number of patients on waiting list that have been delayed due to choice or health (B)	39	40	89	87
Total number of patients on wait list (C= A-B)	189	198	342	365
Average number of surgeries done per month in each quarter (D)	34.3	36.0	67.7	53.3
Time to clear wait list by end of quarter (C/D)	5.5 months	5.5 months	5.1 months	6.8 months
Total number of surgeries done in each quarter*	103 (98% from Manitoba)	108 (93% from Manitoba)	203 (97% from Manitoba)	160 (98% from Manitoba)

Source: Winnipeg Regional Health Authority

In the Oct-Dec/2001 period there were 13 surgeons submitting information to the WRHA. In the Jan-March/2002 period there were 25 submitting surgeons.

Hip and Knee Replacement Surgery: Median Wait Time for Surgery

This wait time indicator measures the time an individual, aged 18 years or older, waited to receive a total hip or knee replacement surgery. The data in Table 3 do not reflect the length of time any one patient, aged 18 years and older, can expect to wait for their hip or knee replacement surgery to be completed. The data in Figure 60 reflect the median number of weeks waited between the date a surgeon designated a patient for surgery and the date the surgery was performed.

As indicated in Figure 60, the number of weeks that individuals aged 18 years and older can expect to wait for hip or knee replacement surgery in Manitoba during the time period shown was about 15 weeks. Similar to the previous data, patients who waited because of personal choice or other illness are excluded from the analyses. All emergent and elective cases are included.

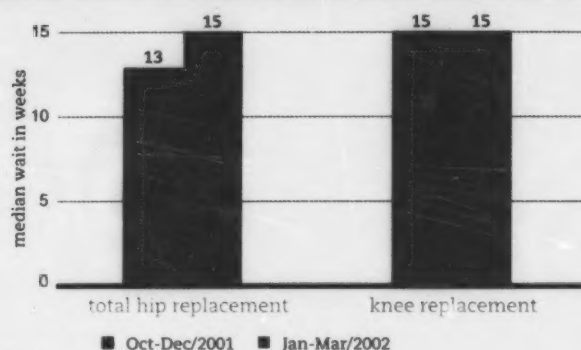


Figure 60.
Median Wait
Time for
Total Hip
and Knee
Replacement
Surgery in
Manitoba,
October
2001-March
2002

Source: Winnipeg Regional Health Authority

Hip and Knee Replacement Surgery: Distribution of Wait Times

Table 4 indicates the actual number and the percentage of patients aged 18 years and older who waited less than 13 weeks, 13-27 weeks, 28-52 weeks, 53-77 weeks, and more than 77 weeks, between having a surgical designation and actually receiving hip or knee replacement surgery. These data do not reflect the appropriateness of the wait time.

Table 4.

Distribution of Wait Time for Total Hip or Knee Replacement Surgery in Manitoba, 2001/2002

Surgical Procedure	Wait Times in Weeks	October-December/2001		January-March/2002	
		# of patients	% of patients	# of patients	% of patients
Total Hip Replacement	Less than 13 weeks	43	48.9%	37	38.1%
	13-27 weeks	30	34.1%	42	43.3%
	28-52 weeks	13	14.8%	16	16.5%
	53-77 weeks	2	2.3%	2	2.1%
	More than 77 weeks	0	—	0	—
	Wait time unknown	0	—	0	—
Total Knee Replacement	Less than 13 weeks	70	39.5%	43	30.3%
	13-27 weeks	63	35.6%	71	50.0%
	28-52 weeks	34	19.2%	24	16.9%
	53-77 weeks	4	2.2%	1	0.7%
	More than 77 weeks	2	1.1%	0	—
	Wait time unknown	4	2.3%	3	2.1%

Source: Winnipeg Regional Health Authority

REALLOCATION OF SURGERIES

- About 350 general orthopedic surgeries will be conducted in two hospitals in southeastern Manitoba, with expanded surgical slates expected to be in place at Bethesda (Steinbach) and Ste. Anne hospitals by Fall, 2002.

Data Clarification

For hip and knee replacement surgery wait times, the data reflect primary total hip replacements, and primary total and partial knee replacements. All revisions were excluded. All hip or knee replacement surgeries, e.g., emergent, urgent, semi-urgent, or elective, for which Winnipeg surgeons have submitted information are captured in the data. The data exclude those patients whose wait time has been extended due to choice or illness. The data are reported for patients who have had surgery in Winnipeg, regardless of their place of residence. All patients in the database are 18 years and older. As previously stated, the data reflect only 60%-65% of the total volume of arthroplasties performed in Winnipeg.

8c. Wait Times: for Radiation Therapy

Information on wait times for radiation therapy for breast and prostate cancer in Manitoba is collected by CancerCare Manitoba. The data for these indicators reflect information on patients who are residents of Manitoba, 18 years and older, where an oncologist has identified the need to start radiation therapy, but who have not yet started therapy. The data include new patients only, which are defined as one who is referred for the first time for an oncology opinion with an established diagnosis of malignancy. The data does not speak to the appropriateness of the wait time.

Radiation Therapy: Weeks to Clear Wait List

These data reflect the average number of weeks that it takes to clear the wait list for radiation therapy for breast and prostate cancer. This is an administrative measure of wait times that does not reflect the amount of time a patient could expect to wait.

In 2001/2002, the number of weeks that it took to clear the radiation wait list for individuals with prostate cancer was approximately 18.2 weeks, and approximately 13.8 weeks for people with breast cancer. Shown in Table 5, the time to clear the radiation wait list for prostate cancer varied between 9.5 and 30.4 weeks, and for breast cancer was fairly constant over the four quarters. These data must be interpreted with caution because it was not possible to exclude the time period when patients were receiving advance treatment required prior to beginning radiation therapy, as was recommended by the PIRC requirements. Data for cancer patients who waited because of personal choice, other illness, or the requirement for other treatments in advance of radiation therapy are included in the analyses. The data reported reflect the estimated time it takes to clear the wait list if all patients on that list were ready to begin treatment; in reality, this is not the case.

Table 5 details the actual number of patients awaiting radiation therapy at the end of each quarter, the average number of radiation treatments started per week during each quarter, and the number of weeks to clear the wait list for breast and prostate cancer.

Table 5.
Radiation Therapy Wait List for Manitoba, 2001/2002

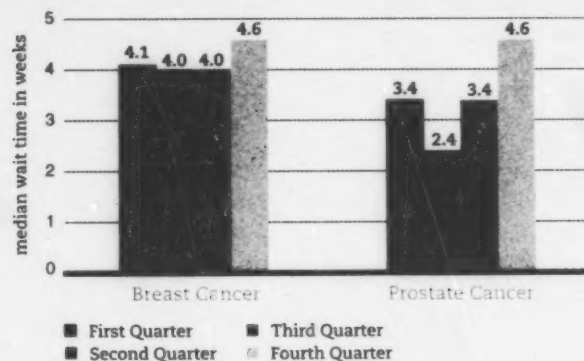
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Number of prostate cancer patients waiting for radiation therapy at the end of each quarter (A)	66	52	82	83
Average number of radiation starts each week for prostate cancer (B)	4.0	5.5	2.7	5.1
Time to clear wait list (A/B)	16.5 weeks	9.5 weeks	30.4 weeks	16.3 weeks
Number of breast cancer patients waiting for radiation therapy at the end of each quarter (C)	130	131	114	120
Average number of radiation starts each week for breast cancer (D)	8.7	9.2	8.8	9.1
Time to clear wait list (C/D)	14.9 weeks	14.2 weeks	13.0 weeks	13.2 weeks

Source: CancerCare Manitoba

Radiation Therapy: Median Wait Time for Therapy

The data in Figure 61 reflect the median number of weeks waited between the date an oncologist designated a patient ready to begin radiation therapy and the date the therapy commenced. In cases where patients require hormone therapy, chemotherapy, or some other form of treatment prior to beginning radiation therapy, the waiting time begins following the completion of that treatment. During the 2001/2002 fiscal year, the median number of weeks that patients aged 18 years and older with breast cancer waited to begin radiation therapy in Manitoba was 4.2 weeks. For patients with prostate cancer, the median wait time was 3.5 weeks.

Figure 61.
Median Wait
Time for
Radiation
Therapy in
Manitoba,
2001/2002



Source: CancerCare Manitoba

Data Clarification

The data reflecting wait times for radiation therapy are reported for patients who are waiting for radiation therapy in Winnipeg, regardless of their place of residence within Manitoba. All patients in this database are 18 years and older, are new patients (those referred for the first time for an oncology opinion with an established diagnosis of malignancy), and are assumed ready to begin radiation therapy.

With respect to the time to clear the wait list data, the PIRC requirements indicate that, where possible, individuals should not be counted in the numerator if a decision has been made, either by the individual or the physician, not to proceed with treatment or to delay treatment for medical or other reasons. For the purpose of these analyses, it was not practically possible to exclude these patients from the data.

8d. Wait Times: Specialist, Diagnostic Tests and Surgery

These indicators reflect wait times for the following services:

- specialist visits for a new illness or condition;
- non-emergency surgery; and
- selected diagnostic tests, specifically, non-emergency MRIs, CT scans, and angiographies.

The Winnipeg Regional Health Authority collects wait time information for some of the selected diagnostic tests, and this information is reported periodically, however, Manitoba does not have sufficient data to accurately report on this health indicator at this time.

9. PATIENT SATISFACTION

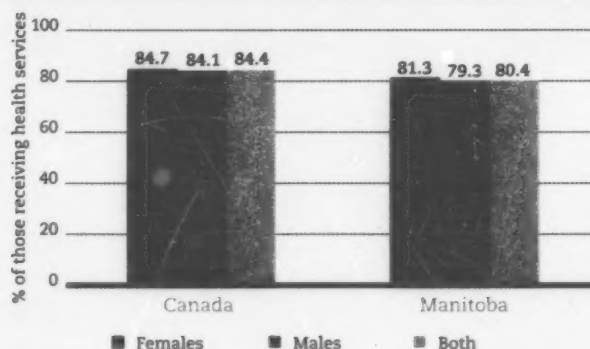
Information on individuals' perceptions of quality of health care service has been gathered on roughly 8400 Manitobans through the Canadian Community Health Survey (CCHS). Patient satisfaction is defined as the percentage of adults who rate themselves as either very satisfied or somewhat satisfied with the way the following services were provided:

- a) overall health care services received;
- b) services received in a hospital;
- c) services received from a family doctor or other physician; and
- d) community-based services received.

These indicators apply to individuals who have received health care services over a 12-month reference period. The individual's assessment of the quality of care received and the satisfaction with the services are measured. The indicators apply to individuals 15 years and older who are living in private households. For each service area, survey participants were asked: *Overall how would you rate the quality of health care received?* and *Overall how satisfied were you with the way health care services were provided?*

9a. Patient Satisfaction: Overall Health Care Services

In 2000, 73.8% of Manitobans (70.1% of males, 77.4% of females) and 75.6% of Canadians (69.7% of males, 81.3% of females) who responded to the Canadian Community Health Survey received some sort of health care service in the 12 months prior to the survey. Of Manitobans who received health services of any kind, roughly 80% rated their care to be excellent or very good. Shown in Figure 62, nationally 84% of both males and females rated their care as excellent or very good.

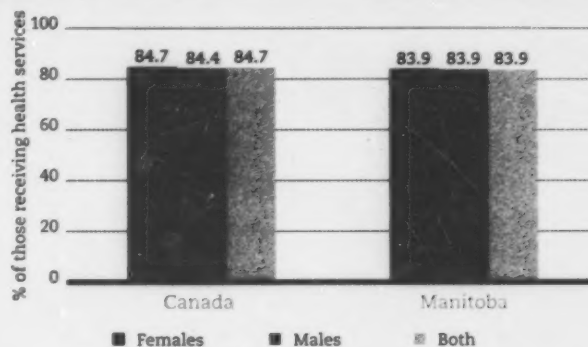


Source: Canadian Community Health Survey
Cycle 1.2, 2000

Figure 62.
Percentage
of Individuals
Rating Health
Care Services
as Excellent
or Very Good,
by Sex,
Manitoba and
Canada, 2000

When asked how satisfied individuals were with the health care they had received in the last 12 months, about 84% of Manitobans who received some form of health care said they were very or somewhat satisfied. This figure is comparable to the national data (see Figure 63).

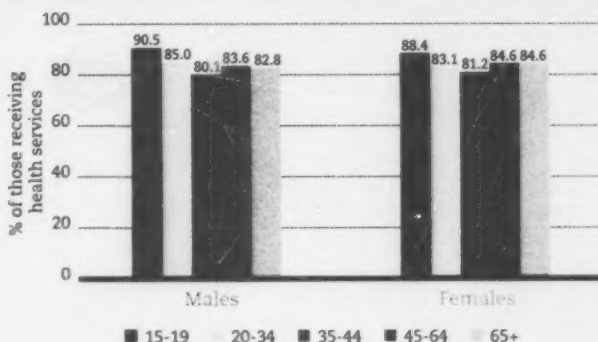
Figure 63.
Percentage of
Individuals
Who Report
Being Very or
Somewhat
Satisfied with
Health Care
Services, by
Sex, Manitoba
and Canada,
2000



Source: Canadian Community Health Survey,
Cycle 1.2, 2000

Figure 64 shows the percentage of all CCHS respondents who report being very or somewhat satisfied with health care services broken down by age group for Manitoba.

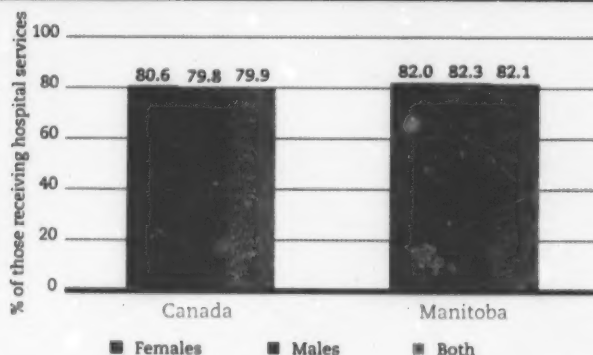
Figure 64.
Percentage of
Manitobans
Who Report
Being Very or
Somewhat
Satisfied with
Health Care
Services, by
Sex and Age
Group, 2000



Source: Canadian Community Health Survey,
Cycle 1.2, 2000

9b. Patient Satisfaction: Hospital Services

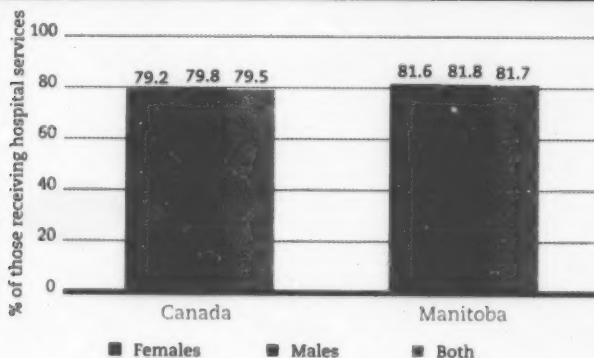
In 2000, 22.4% of Manitobans (22.0% of males, 22.8% of females) and 25.9% of Canadians (23.3% of males, 28.3% of females) who responded to the CCHS received hospital care in the 12 months prior to the survey. Of the Manitobans who reported receiving hospital care, approximately 82% rated the quality of the service they received as excellent or very good. Shown in Figure 65, the national figures are about the same as the Manitoba numbers, with almost 80% of both males and females rating their hospital services as excellent or very good.



Source: Canadian Community Health Survey
Cycle 1.1 2000

Figure 65.
Percentage of
Individuals
Rating
Hospital
Services as
Excellent or
Very Good,
by Sex,
Manitoba and
Canada, 2000

The percentage of Manitobans and Canadians who received hospital care who reported being very or somewhat satisfied with the care they received is Figure 66. The Canada and Manitoba rates appear very similar, around 80%. Figure 67 shows the percentage of Manitobans by gender and age group who reported being very or somewhat satisfied with the hospital care they received.

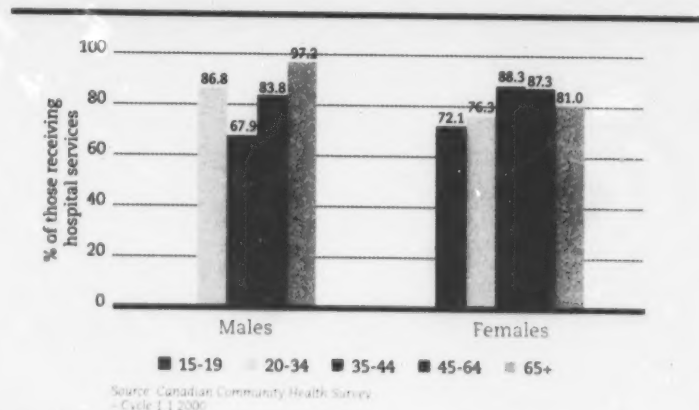


Source: Canadian Community Health Survey
Cycle 1.1 2000

Figure 66.
Percentage of
Individuals
Who Report
Being Very or
Somewhat
Satisfied with
Hospital
Services,
by Sex,
Manitoba and
Canada, 2000

Figure 67 shows the percentage of all CCHS respondents who report being very or somewhat satisfied with hospital services broken down by age group. Statistics Canada advises that caution be used when interpreting the data for the 15-19 year age group (males and females) and the 45-64 year age group (males only) as the sample size collected within these age groups were smaller than considered adequate for statistical comparisons. Additionally, the data for males aged 15-19 were considered by Statistics Canada too unreliable to be published.

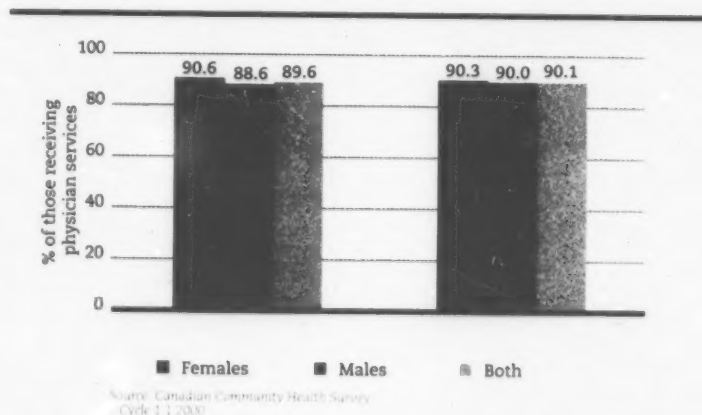
Figure 67.
Percentage of
Manitobans
Who Report
Being Very or
Somewhat
Satisfied with
Hospital
Services by,
Sex and Age
Group, 2000



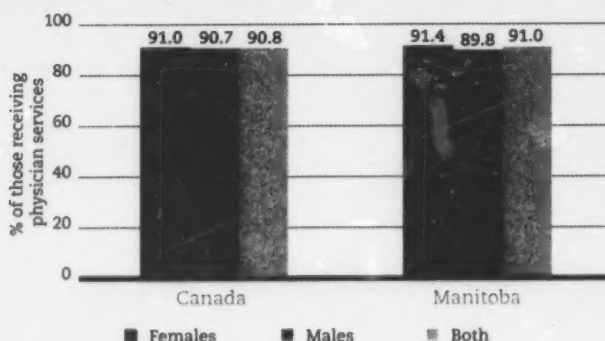
9c. Patient Satisfaction: Family Doctor or Physician Services

In 2000, 64.7% of Manitobans and 60.6% of Canadians who responded to the CCHS received health services from either a family doctor or another physician in the 12 months prior to the survey. In Manitoba, 54.1% of the male survey respondents reported seeing a physician in the last year, compared to 66.9% of female respondents. Similarly at the national level, 56.9% of Canadian male respondents reported seeing a physician in the last year, compared to 72.2% of Canadian females. Of those who reported receiving physician care, both nationally and in Manitoba, about 90% rated the quality of the service they received as excellent or very good (see Figure 68).

Figure 68.
Percentage of
Individuals
Rating
Physician
Services as
Excellent or
Very Good,
by Sex,
Manitoba and
Canada, 2000



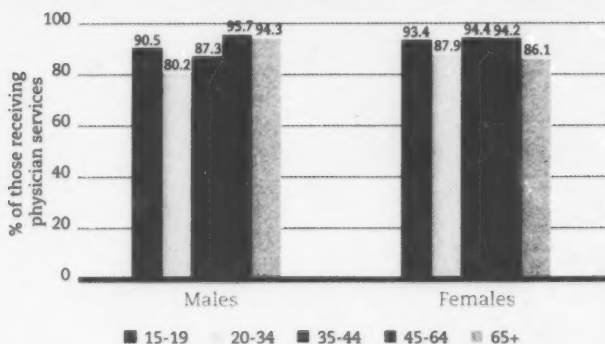
Of those who received care from a physician in the past year, both nationally and in Manitoba, about 90% said they were very or somewhat satisfied with the care they received (see Figure 69).



Source: Canadian Community Health Survey
Cycle 1.1 2000

Figure 69.
Percentage of
Individuals
Who Report
Being Very or
Somewhat
Satisfied with
Physician
Services,
by Sex,
Manitoba and
Canada, 2000

Figure 70 shows the percentage of all CCHS respondents who reported being very or somewhat satisfied with physician services broken down by age group. Between 80% and 95% of both the males and females across all age groups surveyed reported being very or somewhat satisfied with the physician services that they received in the past 12 months. Statistics Canada advises that caution be used when interpreting the data for males in the 15-19 year age group as the sample size collected for that group were smaller than considered adequate for statistical comparison.



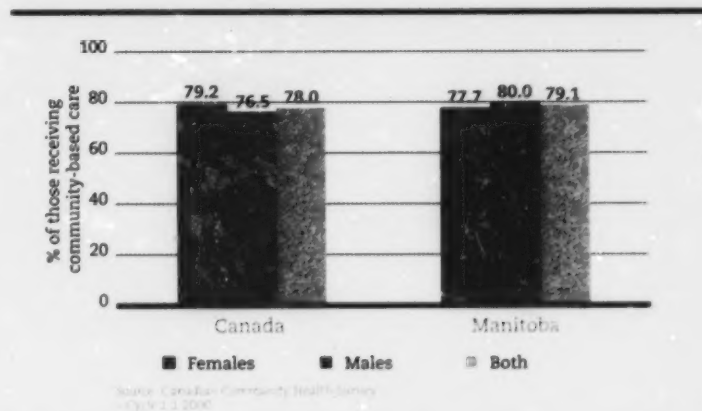
Source: Canadian Community Health Survey
Cycle 1.1 2000

Figure 70.
Percentage of
Manitobans
Who Report
Being Very or
Somewhat
Satisfied with
Physician
Services, by
Sex and Age
Group, 2000

9d. Patient Satisfaction: Community-Based Services

In 2000, 12.3% of Manitobans (10.2% of Manitoba males, 14.4% of females) and 11.0% of Canadians (8.0% of Canadian males, 13.9% of females) who responded to the CCHS received community-based health care in the 12 months prior to the survey. Of those who received community-based care, both nationally and in Manitoba, about 78% rated the quality of the service they received as excellent or very good (see Figure 71).

Figure 71.
Percentage of
Individuals
Rating
Community-
Based Care as
Excellent or
Very Good,
by Sex,
Manitoba and
Canada, 2000



Of those who received community-based health care in the past year, both nationally and in Manitoba, about 80% said they were very or somewhat satisfied with the care they received (see Figure 72).

Figure 72.
Percentage of
Individuals
Who Report
Being Very or
Somewhat
Satisfied with
Community-
Based Health
Care, by Sex,
Manitoba and
Canada, 2000

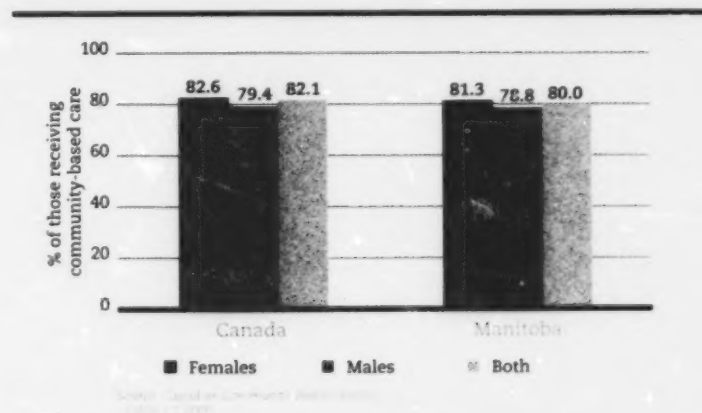


Figure 73 shows the percentage of all CCHS respondents who reported being very or somewhat satisfied with community-based care broken down by age group. Over 80% of both the males and females across the age groups shown in Figure 73 reported being very or somewhat satisfied with the community-based care that they received in the past 12 months. Statistics Canada advises that caution be used when interpreting these data, with the exception of females in the 35-44 year age group. The sample size collected for all but that one age/sex group was smaller than considered appropriate for statistical comparisons. Additionally, the data for males aged 15-19, males aged 45-64, and females aged 15-19 were considered by Statistics Canada too unreliable to be published.

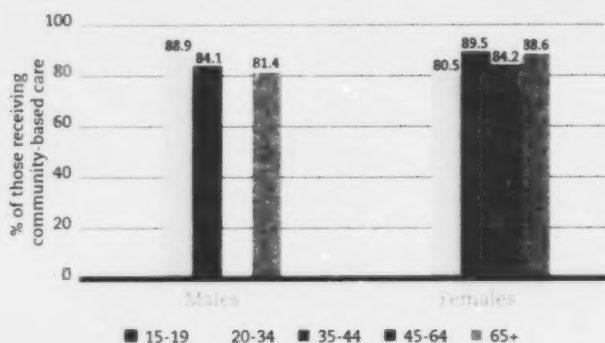


Figure 73.
Percentage of Manitobans Who Report Being Very or Somewhat Satisfied with Community-Based Care, by Sex and Age Group, 2000

Data Clarification

The information on assessment of health care services was gathered as part of the Canadian Community Health Survey, which surveyed roughly 8400 Manitobans. These data apply only to individuals 15 years of age and older living in private households in Manitoba or Canada, whichever is appropriate. While providing useful information as to an individual's perception of the health care system, these data cannot be considered population-based, and therefore, may not reflect the complete perception of the health system for Manitobans or Canadians. In particular, persons living on First Nations reserves and on Crown lands are not surveyed. Additionally, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions of Manitoba are excluded from the sample.

10. HOSPITAL RE-ADMISSIONS

Hospital re-admission rates for some conditions can provide a measure of quality of care. Many factors may be related to hospital re-admission for a related condition, for example: medication prescribed at initial discharge from hospital, patient compliance with directions, the quality of follow-up care in the community, and the quality and completeness of care during initial hospitalization. Some of these factors are directly related to care at the hospital while others relate to the availability of appropriate services in the community. Higher than normal re-admission rates should lead health service managers to examine practices in hospitals such as early discharge criteria and look at the availability of appropriate community services, co-ordination between hospital and community providers, and patient education and instruction.

Manitoba is not able to report on this indicator. Manitoba does not currently capture the hour of hospital admission or the hour of hospital discharge on the hospital discharge forms. Both of these variables are needed to accurately calculate the length of time between admissions and differentiate re-admission from patients who have been transferred from one facility to another.

11. ACCESS TO 24/7 FIRST CONTACT HEALTH SERVICES

Access to 24/7 first contact health services is defined as having access 24 hours a day, 7 days a week to health services which include information and advice and direct treatment services. These services may reflect contact with the health system to meet immediate or routine health care needs.

Manitoba does not have sufficient data to accurately report on this indicator at this time.

12. HOME AND COMMUNITY CARE SERVICES

In recent years, provincial governments have supported programs to deliver some health services to people in their homes or in their communities as an alternative to admitting people to acute care or long-term care facilities. This has certain benefits. For example, people needing care are often more comfortable in their own homes and/or communities where lifestyles and independence are maintained for as long as possible. Additionally, facility space can be reserved for those with greater health care needs. Lower costs are also often associated with home care, compared to care in institutions.

This indicator assesses the extent to which home and community care services are utilized. Utilization of home and/or community care services is assessed in this report through:

- a) the number of admissions to home care services;
- b) the number of admissions to home care services for people aged 75 years and older;
- c) the estimated percent of population receiving home care services, i.e., homemaking, nursing, physiotherapy or respite services; and
- d) the rates of hospitalization for ambulatory care sensitive conditions.

12a. Home and Community Care Services: Home Care Admissions

High quality home care services are expected to reduce the need for acute care admissions or emergency care for people with certain chronic health conditions, and to delay or prevent the need for long-term facility care. For example, as home care use among the elderly increases, there should be a corresponding decrease in wait times for long-term care space and an increase in the acuity of long-term care residents. Reporting data on these expected impacts of home care programs along with these volume indicators provides an indirect way of gauging the quality of these programs. In Manitoba, the Manitoba Support Services Payroll (MSSP) system was developed in 1988 and processes data related to the provision of nursing services, personal care or support services to clients in their homes.

Figure 74 shows the number of admissions to publicly funded home care services, including home health and home support services. Over the last 4 years, the per capita admission rate for home care services was approximately 0.013. This figure does not necessarily reflect 1.3% of Manitobans, as an individual can have multiple admissions for home care services. When the population aged 65 and older is analyzed separately, that figure increases to approximately 0.072, although the rate fluctuates from year to year.

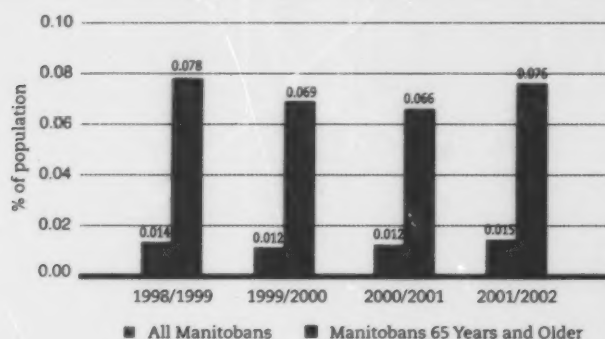


Figure 74.
Per Capita Rate of Admissions for Home Care Services, 1998/1999-2001/2002

12b. Home and Community Care Services: Home Care Admissions, Aged 75+

This indicator assesses the number of admissions to home care services, but only for those aged 75 years and older. Figure 75 shows the per capita rate of home care admissions to individuals aged 75 and older. From 1998/1999 to 2001/2002, the per capita admission rate for home care services was approximately 0.107. Again, this figure does not necessarily reflect 10% of Manitobans, as an individual can have multiple admissions for home care services.

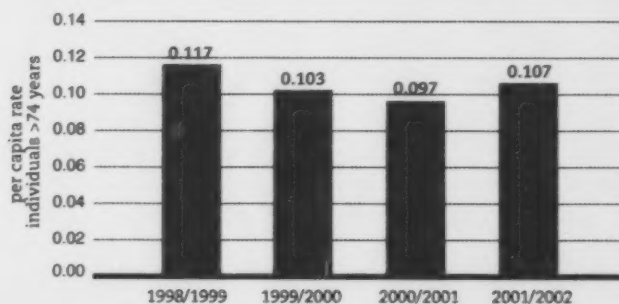


Figure 75.
Per Capita Rate of Admissions to Home Care Services for Manitobans Aged 75 Years and Older, 1998/1999-2001/2002

Data Clarification

The data specific for home care services provision (indicators 12a, 12b) comes from the Manitoba Support Services Payroll (MSSP) database, which captured individuals who met the eligibility criteria for service, have been accepted into the home care program, and have agreed to receive home care services. To be eligible for the Manitoba Home Care Program an individual must:

- be a Manitoba resident, registered with Manitoba Health;
- require health services or assistance with activities of daily living;
- require service to stay in their home for as long as possible; and
- require more assistance than that available from existing supports and community resources.

MSSP is designed as a payroll system but is also used as a source of statistical information about home care services provided in Manitoba. Because it is not primarily designed as a statistical information system, it is limited in its ability to provide accurate and complete statistics. There may be a relatively small number of admissions not captured in the system and some double counting. There also may be differences in reporting within and between regional health authorities. In particular, regions may differ in how they report and record clients who are receiving only assessment services but did not actually receive in-home direct services. Outside agencies may differ in how cases are opened in the MSSP client database. MSSP does not include home care information for clients living in First Nations communities whose health care needs are the responsibility of the federal government.

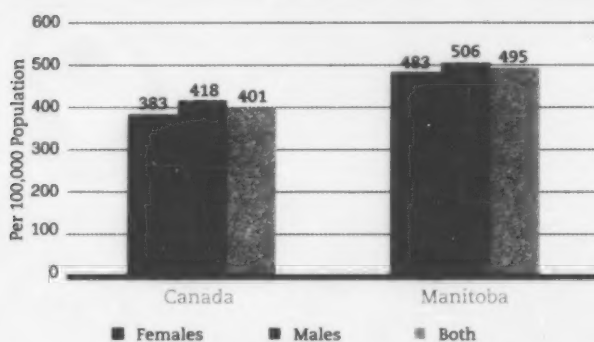
12c. Home and Community Care Services: Utilization of Home Care Services

Utilization of home care services is defined as the proportion of the population reporting receipt of specified home care services. Manitoba does not have sufficient data to accurately report on this health indicator at this time.

12d. Home and Community Care Services: Ambulatory Care Sensitive Conditions

Hospitalization rates for conditions which may often be cared for in the community, called ambulatory care sensitive conditions, are one indicator of appropriate access to community-based care. These are long-term health conditions which can often be managed with timely and effective treatment in the community, without hospitalization. These conditions include diabetes, asthma, alcohol and drug dependence and abuse, neuroses, depression, hypertensive disease and others. Preventive care, primary care and community based management of these conditions may reduce the need for these hospitalizations.

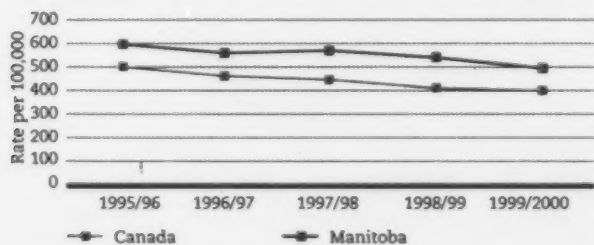
Figure 76 shows the age standardized in-patient acute care hospitalization rate for conditions where appropriate ambulatory care may prevent or reduce the need for admission to hospital. The rates reflect the number of patient separations (via discharge or death) from acute care hospitals that were admitted for ambulatory care sensitive conditions. This number is represented as a proportion of the population. In Manitoba for the 1999/2000 fiscal year, 495 per 100,000 population were admitted to an acute care hospital for a condition that may have been treated in the community. The age standardized rate of ambulatory care sensitive conditions in Manitoba appears to be higher than the Canadian average of 401 per 100,000 population.



Sources: Hospital Morbidity Discharge Abstract Database, CDR, Census, Statistics Canada

Figure 76.
Age
Standardized
Rate of
Ambulatory
Care Sensitive
Conditions,
by Sex,
Manitoba
and Canada,
1999/2000

Figure 77 reflects changes in the age standardized rates of ambulatory care sensitive conditions over the last 5 years. In Manitoba, from 1995/1996 to 1999/2000, there was a 17% decrease in the rate of ambulatory care sensitive conditions. Similarly, the national 1999/2000 rate of Canadians who were admitted to an acute care hospital for a condition that could have been treated in the community decreased by 20% from the 1995/1996 fiscal rate to the 1999/2000 rate.



Sources: Hospital Morbidity Database, CDR, Canada Census, Statistics Canada

Figure 77.
Age
Standardized
Rate of
Ambulatory
Care Sensitive
Conditions,
Manitoba and
Canada,
1995/1996-
1999/2000

CHILDHOOD ASTHMA

- The Asthma Education Project at Children's Hospital has been successful in reducing emergency room visits at Children's Hospital. Planning has begun to bring best practices in asthma management to children and their families across rural and northern Manitoba.

PROGRAM OF ASSERTIVE COMMUNITY TREATMENT (PACT)

- PACT is a best practice service delivery model established in 2000. A diverse outreach team delivers rehabilitation and support services in the community supporting people with severe and persistent mental illness.

Data Clarification

The data for the ambulatory care sensitive conditions (indicator 12d), is derived from hospital discharge abstracts from acute care hospitals. Patients not treated as inpatients in acute care hospitals (e.g. those seen only in an emergency department or chronic care institution) are thus excluded from the analyses for this indicator. The data for this indicator were provided by CIHI. The quality assurance processes for these data are not known and this should be considered when interpreting these data.

13. PUBLIC HEALTH PROTECTION AND SURVEILLANCE

In determining the indicators for this area, an effort was made to choose a representative sample of diseases covering the four basic public health areas: water borne diseases, food borne diseases, air borne diseases and diseases that are transmitted sexually or through injection drug use. The selected diseases are nationally notifiable providing long-term national trends in reporting. In addition, self-reported exposure to environmental tobacco smoke is reported as it reflects the effectiveness of the public health system in protecting non-smokers against exposure to tobacco smoke in public spaces and work places.

The following incidence rates are reported on:

- tuberculosis;
- HIV;
- verotoxigenic E.coli;
- chlamydia; and
- self-reported exposure to environmental tobacco smoke.

13a. Public Health Surveillance: Tuberculosis

Tuberculosis (TB) is a respiratory infection that is air borne. Figure 78 reflects the rate of new, active and relapsed tuberculosis cases reported by calendar year. For a disease like TB that can be successfully treated, relapses do occur where one person may have more than one active episode. Therefore, the rate represents all new, active, and relapsed TB cases that are reported each year and is reported as a proportion of the total population (since TB may infect any member of the population).

In 2000, Manitoba reported 8.5 TB cases per 100,000 population, while the national rate was 5.5 cases per 100,000 population. Canada has seen a steady decrease in TB incidence over the last 10 years, with the 2000 rate being approximately 20% lower than the 1990 rate. The Manitoba rate has fluctuated over the past 10 years.

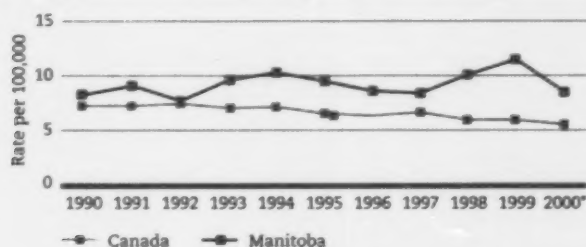


Figure 78.
Age
Standardized
Rate of New,
Active, and
Relapsed
Tuberculosis
Cases
Reported by
Year, Manitoba
and Canada,
1990-2000

13b. Public Health Surveillance: Human Immunodeficiency Virus (HIV)

HIV is a viral infection that can be transmitted via blood, vaginal fluids or seminal fluids. The number of new HIV diagnoses is a function of both HIV incidence and HIV testing patterns. The number of HIV test reports in a given year includes individuals infected in that year as well as individuals infected in previous years. Most individuals will not be diagnosed in the year they are infected. In addition to changes in HIV incidence and testing patterns, the number of new diagnoses is also influenced by reporting delays and improved removal of duplicate reports, and these should be considered when interpreting changes in the numbers/rates of reported positive tests.

As can be seen in Figure 79, the national incidence rate of HIV infections appears to be declining. In 2001, the HIV incidence rate for Canada was 7.06 new cases per 100,000 population; a 30% decrease from the 1995 rate. In Manitoba, the 2001 HIV incidence rate was 6.1 new cases per 100,000.

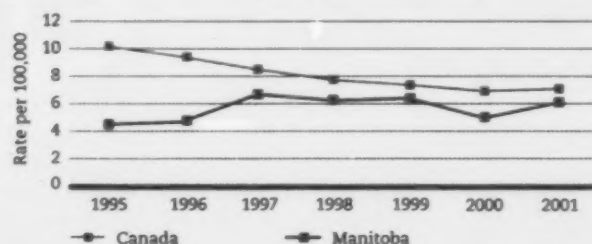


Figure 79.
Age
Standardized
Incidence
Rate of HIV,
Manitoba
and Canada,
1995-2001

13c. Public Health Surveillance: Verotoxogenic *E. coli*

Verotoxogenic *E. coli* is an indicator of food-borne illness, and rarely of water-borne illness. While the rates shown in Figure 80 appear to be decreasing, *E. coli* is often subject to sporadic variations. In 2001, the age standardized verotoxogenic *E. coli* incidence rate in Manitoba was 5.65 new cases per 100,000 population (see Figure 80). The national rate for 2001 was 4.04 new cases per 100,000 population.

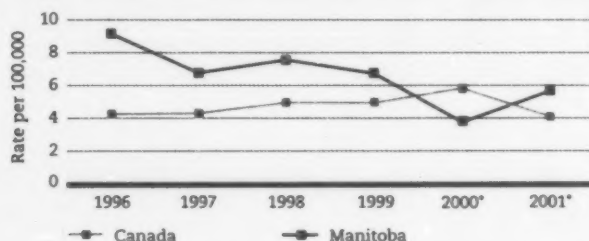


Figure 80.
Age
Standardized
Incidence
Rate of
Verotoxo-
genic *E. coli*,
Manitoba
and Canada,
1996-2001

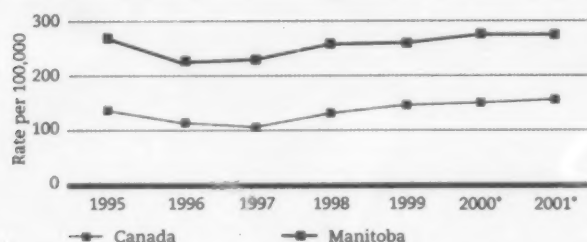
OFFICE OF DRINKING WATER

- The Office of Drinking Water will be monitoring drinking water quality and providing education to the public and water system operators.

13d. Public Health Surveillance: Chlamydia

Chlamydia is a common sexually transmitted infection (STI) that, if untreated, may result in female infertility and ectopic pregnancy. Chlamydia was chosen as the STI for this report because its higher incidence rates relative to other STIs may be a more sensitive indicator of change in risk behaviours and reflect the effectiveness of primary and secondary prevention.

As indicated in Figure 81, both the national and the Manitoba chlamydia incidence rates have been steadily increasing since 1996. The Manitoba 2001 age standardized incidence rate was 283.0 new cases per 100,000 population, compared to the 1996 rate of 224.4 per 100,000. The 2001 incidence rate for Canada was 161.0 new cases per 100,000, up from the 1996 rate of 114.8 per 100,000. The increase in chlamydia rate may partly reflect a greater sensitivity of new testing techniques.



Source: Notifiable Disease Reports, Health Canada
 *2000 and 2001 rates are considered preliminary

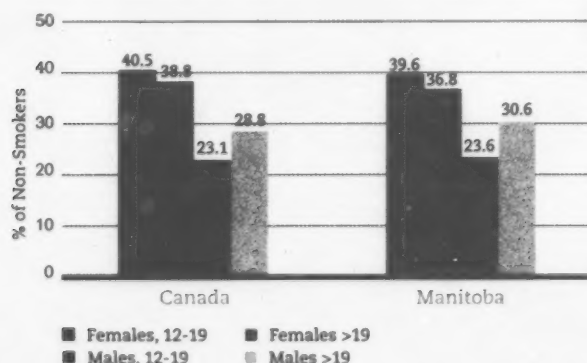
Figure 81.
 Age
 Standardized
 Incidence Rate
 of Chlamydia,
 Manitoba
 and Canada,
 1995-2001*

13e. Public Health Surveillance: Exposure to Environmental Tobacco Smoke

There is evidence of an association between exposure to environmental tobacco smoke and respiratory illness. This indicator reflects the protection of non-smokers against exposure to tobacco smoke in public spaces and work places in Canada.

The data shown in Figure 82 was gathered as part of the Canadian Community Health Survey, and reflects the proportion of non-smoking respondents who report being regularly exposed to environmental tobacco smoke in public spaces and work places in Canada. In Manitoba, 26.9% of non-smoking respondents 20 years and older reported being regularly exposed to environmental tobacco smoke in public or work places in Canada. The national average is similar at 25.8%.

Examining just those respondents between 12 and 19 years of age, the percentage that report exposure increases by 42% in Manitoba and by 50% nationally. Across the country, 39.3% of the non-smoking respondents 12-19 years of age reported being regularly exposed to environmental tobacco smoke in public or work places in Canada. The Manitoba figure is similar at 38.2%.



Sources: Canadian Community Health Survey - Cycle 1.1 - 2000/2001,
 Health Services Access Survey (Supplement to CCHS) - Nov. Dec. 2001
 *Nationally, 0.3% of non-smokers surveyed (0.4% of males & 0.2% of females) did not respond
 to this survey item.

Figure 82.
 Proportion
 of Non-
 Smokers*
 who are
 Regularly
 Exposed to
 Environmen-
 tal Tobacco
 Smoke in
 Public and
 Work Places
 in Canada, by
 Age and Sex,
 Manitoba and
 Canada, 2000

NON-SMOKERS HEALTH PROTECTION ACT (BILL 37)

- Bill 37 received Royal Assent August 9, 2002. This Act will prohibit the display of tobacco or tobacco-related products that are visible to children in places where these products are sold. These display provisions are effective January 1, 2004.

Data Clarification

TB, HIV, verotogenic E. coli, and chlamydia are all notifiable by law. These data are considered an accurate representation of the reported incidence of these diseases. However, incidence rates of these diseases are subject to variations in testing. Changes in incidence of these diseases may reflect testing practices and reporting.

The information presented on exposure to second hand smoke was gathered as part of the Canadian Community Health Survey, which surveyed about 8400 Manitobans. The data for this indicator apply to individuals 12 years of age and older living in private households in Manitoba or Canada, whichever is appropriate. In the CCHS, persons living on First Nations reserves and on Crown lands are not surveyed. Additionally, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions of Manitoba are excluded from the sample.

14. HEALTH PROMOTION AND DISEASE PREVENTION

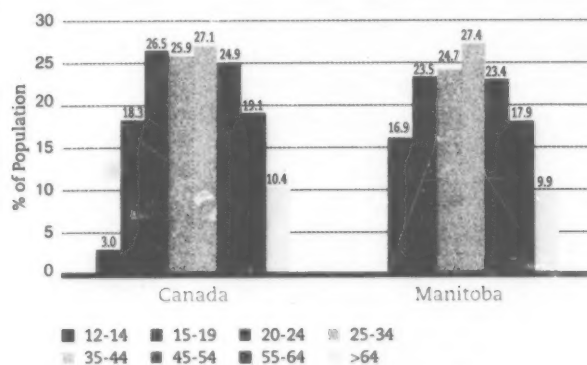
Preventable disease and death in Canada is of great concern to jurisdictions across the country. Four main areas of disease prevention and health promotion have been chosen for this report:

- a) smoking;
- b) physical activity;
- c) obesity; and
- d) flu immunization.

14a. Health Promotion and Disease Prevention: Smoking

Tobacco use is the leading cause of preventable illness and death in Canada. Health Canada estimates that smoking is responsible for more than 45,000 deaths per year. Nicotine is an extremely addictive substance. It is estimated that approximately 8 out of every 10 people who try smoking become habitual smokers. Because of the addictive nature of nicotine, coupled with the health detriment of smoking, youth smoking is of particular concern.

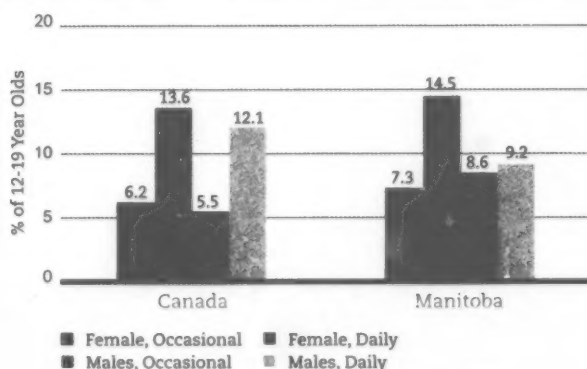
The data shown in Figure 83 were collected through the Canadian Community Health Survey, in which respondents were asked if they smoked daily, occasionally, or not at all. As Figure 83 shows, the proportion of Manitoba respondents who claim to smoke daily is similar to the national averages within each age group.



Sources: Canadian Community Health Survey - Cycle 1.1 - 2000/2001.
Note: Data not available for 12-14 year olds in Manitoba.

Figure 83.
Proportion of
Respondents
who are
Current Daily
Smokers, by
Age, Manitoba
and Canada,
2000

Figure 84 shows the proportion of the Canadian Community Health Survey respondents aged 12-19 who reported current smoking, either daily or occasionally. These data are based on the CCHS question: At the present time do you smoke cigarettes daily, occasionally or not at all? The provincial figures appear to be similar to the national average.



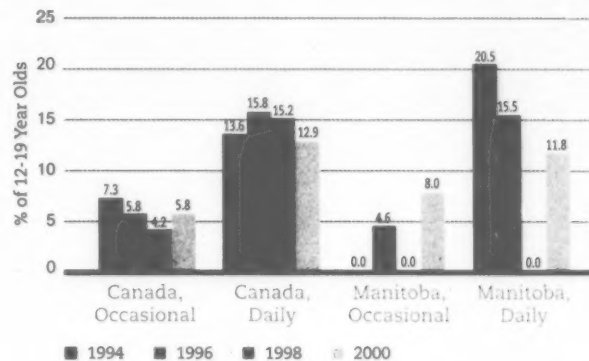
Sources: Canadian Community Health Survey - Cycle 1.1 - 2000/2001;
Health Services Access Survey (supplement to CCHS) - Nov-Dec 2001.

Figure 84.
Proportion
of 12-19 Year
Olds who are
Current
Smokers, by
Sex, Manitoba
and Canada,
2000

The smoking status of Canadian youth has been assessed in previous Canadian Community Health Surveys. Figure 85 reflects the proportion of respondents aged 12-19 who reported current smoking, either daily or occasionally in the past four surveys (the percentage of total current smokers in Manitoba is available for 1998, but not broken down by occasional versus daily). Examining the daily smokers, the percentage of 12-19 year old

respondents who report daily smoking has been decreasing, both nationally and within Manitoba. The 2000 rate for Manitoba is approximately 42% lower than the 1994 rate. A similar decrease is not apparent in the national data.

Figure 85.
Proportion of
12-19 Year
Olds who are
Current
Smokers,
Manitoba and
Canada, 1994,
1996, 1998,
2000*



Sources: Canadian Community Health Survey - Cycle 2, 1998-2001;
National Population Health Survey, 1994, 1996, 1998.
*Manitoba data is missing for Occasional smokers in 1994 and 1996, and Daily smokers in 1998.

TEEN SMOKING CESSATION PROGRAM

- An expansion of a teen smoking cessation program in schools throughout the province was part of a comprehensive provincial tobacco control strategy announced by the Minister of Health in January, 2002. The program will assist teenage smokers to quit by giving them the information, support and motivation necessary to successfully quit.

14b. Health Promotion and Disease Prevention: Physical Activity

Maintaining physical activity is associated with a range of health benefits. Many studies have shown that regular physical activity provides major heart health benefits and that inactivity is a major risk factor for heart disease.

Figure 86 shows the percent of the population aged 12 and over that responded to the Canadian Community Health Survey who reported their physical activity level (active, moderately active, and inactive) for Canada and Manitoba separately. Approximately 54% of Manitoba females and 42% of Manitoba males reported being physically inactive. Approximately 17% of the survey respondents reported being active, and an additional 21% reported being moderately active. Nationally, the figures are similar. Both nationally and provincially, compared to males, fewer females reported being active and more females reported being physically inactive.

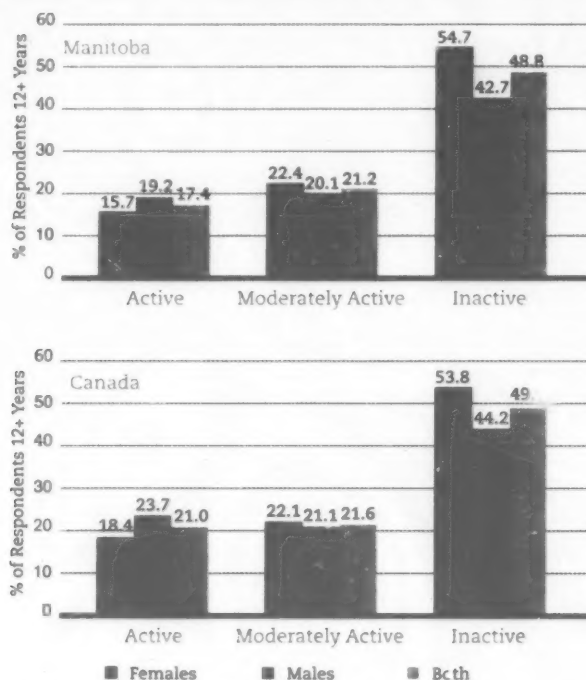


Figure 86.
The Physical Activity Level of CCHS Respondents, Aged 12 Years and Older, by Sex, Manitoba and Canada, 2000*

Sources: Canadian Community Health Survey - Cycle 1.1 - 2000/2001
*Nationally, 4.3% of Canadians surveyed (21.3% of males & 5.4% of females) did not respond to this survey item.
*Provincially, 12.6% of Manitobans surveyed (14.0% of males & 7.3% of females) did not respond to this survey item.

Physical activity has been assessed in previous national surveys. Figure 87 reflects the proportion of respondents aged 12-19 who reported their level of physical activity as active versus inactive over the past 4 surveys. While there have been some decreases both nationally and provincially in the number of people who report being inactive, the percent of those reporting inactivity is still almost 3 times greater than the percentage of those who are active.

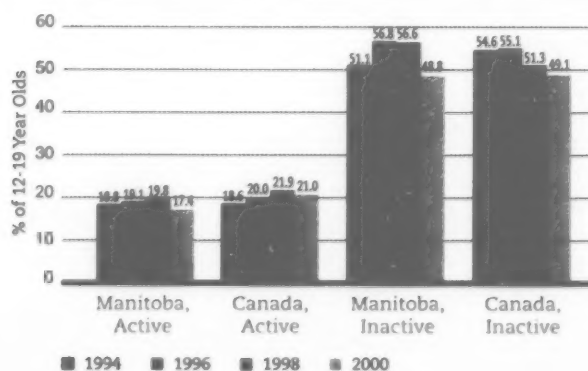


Figure 87.
The Physical Activity Level of CCHS/NPHS Respondents, Aged 12 Years and Older, Manitoba and Canada, 1994, 1996, 1998, 2000

Source: Canadian Community Health Survey - Cycle 1.1, 2000;
National Population Health Survey, 1994, 1996, 1998

14c. Health Promotion and Disease Prevention: Body Mass Index

Obesity has been identified as a major risk factor contributing to a number of chronic illnesses such as diabetes and heart disease. Body Mass Index (BMI) is the most common method of determining if an individual's weight is in a healthy range. The effect of excess weight as a risk factor for various diseases increases with BMI above the threshold of 25; this is a widely used standard in the health literature.

Body mass index (BMI) is based on CCHS respondents' self-reported height and weight, and calculated for persons 20 to 64 years old, excluding pregnant women. Due to different rates of growth for individuals under 20 years of age, the standard BMI is not considered a suitable indicator for this group. BMI is calculated as weight (in kilograms) divided by height (in meters) squared.

According to international standards the body mass index categories are as follows:

- BMI less than 18.5 underweight
- BMI 18.5 – 24.9 acceptable weight
- BMI 25.0 – 29.9 overweight
- BMI more than 29.9 obese

Figure 88 shows the distribution of weight for Manitobans and for Canadians as a whole. Approximately 1.4% of Manitoba respondents have a BMI less than 18.5 meaning they would be considered underweight. The majority of respondents both nationally (48.3%) and provincially (44.6%) have a BMI between 18.5 and 24.9 – an acceptable weight. An additional one-third of all respondents would be classified as overweight with a BMI between 25.0 and 29.9. Both nationally and for Manitoba, it appears that more male respondents are overweight compared to females. Lastly, 14.9% of all respondents across Canada and 18% of respondents in Manitoba have a BMI over 29.9 and would be classified as obese.

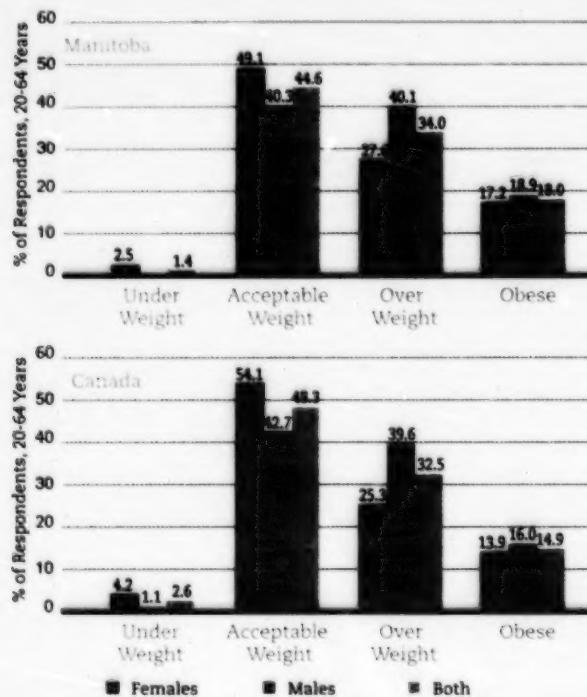


Figure 88.
Body Mass
Index of CCHS
Respondents,
Aged 20-64
Years, by Sex,
Manitoba and
Canada, 2000*

Source: Canadian Community Health Survey - Cycle 1.2, 2000/2001.
*Nationally, 1.1% of Canadians surveyed (0.6% of males & 2.1% of females) did not respond to this survey item.
†Provincially, 1.0% of Manitobans surveyed (0.1% of males & 1.7% of females) did not respond to this survey item.

NUTRITION EDUCATION PROGRAMS

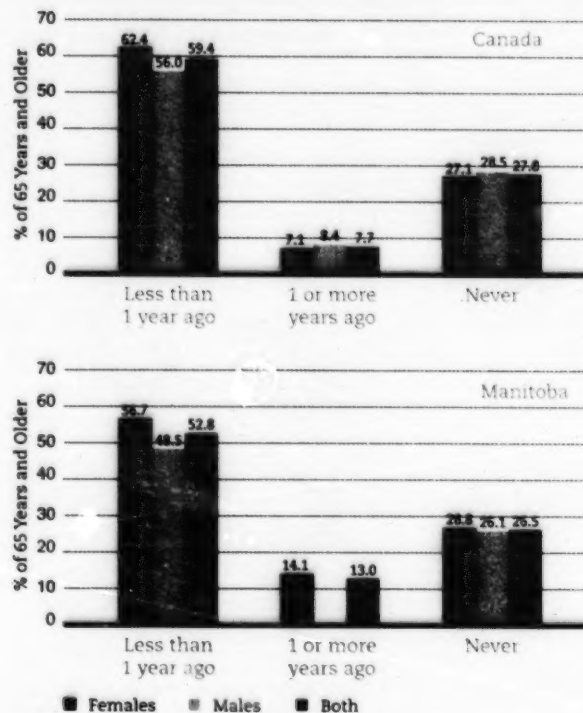
- "Kids in the Kitchen", an interactive nutrition program for children ages 6-11, is an interagency initiative that combines nutrition education with practical cooking skills.

14d. Health Promotion and Disease Prevention: Immunization for Influenza (Adults 65+ Years)

This indicator reports the percentage of CCHS respondents aged 65 years and older who received the influenza vaccination in the past year. Specifically, the survey asked respondents if and when they last had a flu shot. Responses were recorded for immunizations occurring more than one year ago, one or more years ago and never.

As indicated in Figure 89, at least half of the survey respondents between the ages of 65 and 74 years, both nationally and provincially, reported having received a recent immunization for influenza. Specifically, 56.7% of those surveyed in Manitoba and 62.4% of the national respondents said they were immunized within the last 12 months. Both nationally and provincially, about one-quarter of the survey respondents reported never receiving an influenza immunization.

Figure 89.
Influenza
Immunizations for
CCHS
Respondents,
Aged 65-74
Years, by Sex,
Manitoba and
Canada, 2000*



Source: Canadian Community Health Survey (sub Sample) - Cycle 1.1, 2000

*Nationally, 5.1% of Canadians 65-74 years old surveyed (7.1% of males & 3.3% of females) did not respond to this survey item.

Provincially, the proportion of Manitoba males aged 65-74 years old that were immunized 1 or more years ago was considered by Statistics Canada too unreliable to be published.

Immunization information for CCHS respondents aged 75 years and older is reported in Figure 90. More than 60% of survey respondents 75 years and older, both nationally and provincially, reported having received an influenza immunization within the last 12 months. Specifically, 59.8% of those surveyed in Manitoba and 68.4% of the national respondents said they were immunized recently. 17.3% of the national respondents and 21.3% of the provincial respondents reported never receiving an influenza immunization.

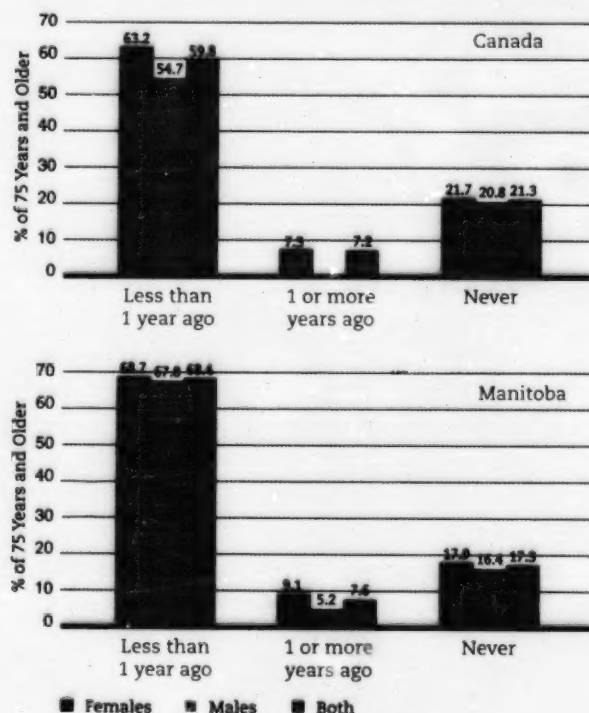


Figure 90.
Influenza
Immunizations for
CCHS
Respondents,
Aged 75 Years
and Older, by
Sex, Manitoba
and Canada,
2000*

Source: Canadian Community Health Survey (sub Sample) - Cycle 1.1, 2000
 *Nationally, 6.8% of Canadians 75 years and older surveyed (10.7% of males & 6.8% of females) did not respond to this survey item.
 *Provincially, 11.7% of Manitobans 75 years and older surveyed did not respond to this survey item (sample size was too small to report the sex breakdown of non-responders).
 *Provincially, the proportion of Manitoba males aged 75 years and older that were immunized 1 or more years ago was considered by Statistics Canada too unreliable to be published.

Data Clarification

The information presented on exposure to second hand smoke, physical activity, body mass index, and immunization was gathered as part of the Canadian Community Health Survey (CCHS) and, for the longitudinal data, the National Population Health Survey (NPHS). The sample size for the CCHS was about 8400 Manitobans. The data for these indicators apply to individuals living in private households in Manitoba or Canada, whichever is appropriate. In the CCHS and NPHS, persons living on First Nations reserves and on Crown lands are not surveyed. Additionally, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions of Manitoba are excluded from the sample. All of these data gathered in the CCHS and NPHS are based on self-report survey responses. Particularly with regards to height, weight and physical activity, individuals may not always report reliably, and this should be considered when interpreting the data.